





LAW AND CRIME.

ACTION AGAINST A CHEMIST FOR MALPRACTICE.—
JONES V. FAY.

THIS important case was tried at the Croydon Assizes before Mr. Baron Pigott. The declaration stated that the plaintiff had retained and employed the defendant for reward, to bestow care, diligence, and skill, as a surgeon and apothecary, in and about the endeavouring to cure the plaintiff of a certain complaint and disorder under which he then laboured, but that the defendant conducted himself so carelessly, negligently, ignorantly, and unskilfully, that by reason thereof the plaintiff became, and was, and still is, greatly injured in health and constitution. The defendant denied his retainer and employment as alleged.

Mr. Serjeant Ballantine and Mr. Haselfoot were for the plaintiff; Mr. M. Chambers, Mr. Denman, and Mr. Wilmoughby were for the defendant.

The plaintiff was a common painter at Islington, and the defendant a chemist at Kingsland. The plaintiff, who had twice been married, and had a large family, had some years ago had an attack of what is called "painters' colic," a complaint very common among painters; but how far from that time to the period of the matter now in question he had been in good health was a matter rather in dispute. In May last the plaintiff, having a pain in the bowels, went to the shop of the defendant (to whom he had already resorted on similar occasions) for a medicine. What then took place and what followed was, of course, in controversy, and must be gathered from the evidence; but in the result the plaintiff, beyond all doubt, became very bad, and ascribing the result to the defendant's treatment, brought the present action. The case for the plaintiff in substance was that the attack was one of painters' colic, and for which castor oil would be proper, but that the defendant had given him mercury, which had caused salivation and seriously impaired his constitution.

Mr. Serjeant Ballantine, in opening the case, said it was one of a very deplorable character, and one also of great importance. The plaintiff, he said, had gone to the defendant's shop a hale and hearty man, and had been utterly destroyed.

The plaintiff's wife proved that her husband when he consulted the defendant was in good health, and had worked regularly every day. She knew of his taking pills, and she administered them herself, and he took them every night, or every other night, for nearly a month. He got, she said, no better, but rather worse, and she went to the defendant and asked him if the pills were right, and he said "Yes," and gave her some more. She asked him, she said, if she should call in any other medical man, and he said "Certainly not," and that he would "get her husband round soon." She went, she said, every week for some time, and asked each time if she should call in more assistance, and he always said "No." At the end of the month, however, she called in a Mr. Trend, who still attended him. Her husband now, she said, was in a very bad state and could do nothing.

In cross-examination it was elicited that after the man complained he went on with a painting job he had, and that he had also been to Cambridge with a cold upon him and a cough, which was very bad. He said he had taken castor oil before, but had not taken much medicine. She had asked for a "mild pill." The defendant's shop was a large one, and sometimes she saw one of several assistants.

The plaintiff himself was called as a witness. He appeared in a very enfeebled state, and could hardly be heard; indeed, his answers had to be repeated by the Clerk of Assize. He had to be carried into and out of court upon a chair, on which he sat during his examination. He stated that he was fifty-four years of age, and had enjoyed good health, and had never consulted defendant before the occasion in question, when he went into his shop and said, "Can you oblige me by making me up something to relieve a pain in my stomach; perhaps castor oil will do?" He said, "You had better not take that. I will make you up a little stuff which will give you relief." He did not, he said, go for it, but sent his wife

for it. He took many pills by the defendant's direction. He had handed over some of them, he said, to his attorney. He asked defendant whether he had not better have a medical man to attend him, and he said, "No. I will make you up some strong medicine, which will make you well." I took all the pills he gave me, except those I gave my attorney. I grew worse, and called in Dr. Trend. My tongue was then out of my mouth rolling about, and I could not taste or swallow anything.

In cross-examination, it was elicited that he had for many years worked at his trade and mixed the paint; and after he took some of the pills he went to a funeral at Cambridge. Witness continued:—I told defendant I had painters' colic. He never advised me to go to a medical man. His assistant never made up medicine for me. The second time I went the defendant handed me some pills. There were not more than four pills in each of the boxes until the last few days. When I went again I said I was better. He said I should be all right, and he gave me a box of pills with about four pills in it. The next time he gave me a box with six pills in it, and a draught. On one occasion he gave me a box with twelve pills in it. I was to take two a night. At the funeral I went to an open churchyard.

Re-examined, he said that he had a box of pills on each occasion, and took two boxes to his attorney. There had been a previous attack seven or eight years ago, but he never was in Fay's shop before.

A chemical analyst, who had received from the plaintiff's attorney two boxes of the pills—one containing ten, and the other six pills, which had been submitted to his analysis along with a bottle of medicine, was then examined. The pills, he said, were "blue pills," and averaged four grains each. The medicine in the bottle was a simple magnesium mixture, with a little ether and some saline element. The pills in one box were marked, "One to be taken every night," and those in the other, "Occasionally at night."

Mr. Trend was called as witness for the plaintiff, and stated that on May 31 he was called in to attend the plaintiff, and found him "suffering from profuse salivation, the result of mercury. His tongue was swelled, and partly protruded." The whole of the salivary glands were enlarged and painful, and he complained of severe pains in his limbs, "as if he had been beaten." These were symptoms of mercury, which was not, under any circumstances, proper for the "painters' colic." The proper treatment would be a full dose of opium, followed by a dose of castor oil, and then a saline mixture, with common Epsom salts. He had treated the plaintiff with a view to get rid of the mercury, the results of which were, he said, most injurious. Unless carried off, the mercury would remain in the system, and blue pill, which was, he said, "a favourite with the public," ought always to be carried off by some aperient medicine. The plaintiff, however, was in so weak a state that he could not give a very efficient aperient. He caught a cold, and bronchitis ensued. The mercury would make him more liable to cold, and render the case more difficult, and he thought the mercury had a good deal to do with the bronchitis. As to his present condition, he was sorry to say that he believed that he had but a short time to live. This he believed to be in a great degree owing to the mercury, though not entirely, partly to the cold and bronchitis which supervened. But these, on the other hand, he ascribed in a great degree to the mercury.

In cross-examination it was elicited that the plaintiff's present age of fifty-four was a "good average for a painter." The diseases to which painters were subject—such as palsy and colic—tended, he said, to shorten life. This witness was cross-examined a good deal with a view to show the existence of a hostile feeling towards the defendant, and certain expressions supposed to have been uttered by the witness were put to him, as that the defendant was a "French humbug," and would soon be out of his shop; but these expressions for the most part he denied, and the rest he said he could explain. He was then challenged with the opinions of Hunter, and Warren, and Clutterbuck, and Clark, and others, cited in Dr. Copland's work on medicine, that salivation was good for painters' colic; but he said that he should think those views obsolete, and that such men as Dr. Watson, who were followed now, were of a different opinion. There could be no objection, he said, to a single dose of calomel, followed by aperient medicine, but he should not think continuous doses of blue pill proper. The use of

mercury had a good deal gone out of late years in such cases, and among qualified medical practitioners he believed there was no difference of opinion that mercury should not be used in such cases, carried to the extent of salivation. Purgation, he pointed out, was one thing, salivation was very different, and he was not aware that any medical man had ever recommended salivation in such cases. He had attended the plaintiff's family for three years prior to this matter, and, so far as he knew, the plaintiff was in good health.

In re-examination he said that the effects of the paint were too often aggravated by intemperance, and that in this particular instance he knew of no indications of a short life.

Dr. Guy, Professor of Medicine in King's College, and physician to the hospital, was called for the plaintiff, and stated that the proper treatment for painters' colic was, in a slight case, castor oil; if that was not sufficient, opium and then castor oil, the patient being meanwhile kept carefully in bed and warm. In his judgment mercury remaining in the system to the extent of salivation could never in such cases be proper treatment. If mercury were admissible at all, it would only be as a purgative in combination with the opium. The symptoms stated showed excessive salivation, calculated to have a very injurious effect upon the system; while, on the other hand, it would not materially affect the disease. Such salivation produced great depression, and rendered the person more liable to catch cold, and would make diseases worse when contracted. He had seen and examined the plaintiff, and found him in a very weak state, with a severe cough and dropsical legs, and he thought it very improbable that he would ever recover; and even, if he should survive, he believed he could never do a day's work.

In cross-examination he said that blue pills of four grains each had a large quantity of mercury, and he was asked if they might not carry themselves off, but he said he had never known an instance. Blue pill was, in fact, quicksilver, or finely divided mercury, made up with certain confections. He was pressed as to whether the use of mercury had indeed gone out, and he said with a smile that he thought so. Upon this he was pressed with Dr. Copland's "Dictionary of Medicine," which, he said, was "a very learned work," and that formerly, no doubt, mercury was used, but not now. He was pressed with the passage, "Calomel in large doses with or without opium has a good effect." To which he answered that, used with opium as an aperient, and followed by aperients, it might be admissible. Calomel and black draught, no doubt, was a common treatment for constipation, not colic. Dr. Watson, in his treatise, laughed at mercurial treatment of colic, observing that giving mercury was merely adding one poison to another, the colic coming from the lead. He was asked if the white and red lead did not affect painters, and cause some of the symptoms of mercury, especially the red lead, which contains mercury. He said that no doubt they tended to produce injurious effects, but he had not known them produce these mercurial symptoms, as a great deal must be absorbed to produce such effects. At present the plaintiff was suffering from bronchitis, and to that, principally, his state was to be ascribed—that is, he said, to bronchitis supervening upon the mercury. Bronchitis, he said, was one of those diseases with which the faculty could deal as well as any others, unless the patient was very weak or very old; but the bronchitis would be worse for the weakness. The importance of taking cold in bronchitis he thought was exaggerated, but still, no doubt, it was to be avoided.

In re-examination he said that the symptoms here had come on so soon after the pills that, looking to the materials, he could not doubt the relation of cause and effect, and that the pills produced the symptoms. Unfortunately, he said, mercury had formerly been very largely used, and it was a substance which required to be administered with great caution.

Dr. Harley, Professor at University College, gave similar evidence. Painters' colic, he said, was a very simple disease, and easily treated. The treatment was sedative and purgative. Opium to relieve the pain; some mild purgative to open the bowels. Mercury to the extent of salivation was never given. Mercury as a purgative was quite different from mercury for salivation, and would be given with a proper admixture of aperients to carry it off. Mercury allowed to remain in the system caused salivation and great exhaus-

tion and depression, enfeebled the system, and rendered it more liable to other diseases; and he did not doubt that the plaintiff's present condition was greatly owing to the mercury in the pills. In cross-examination he said if opium could not be taken some other opiate should be given. Some skill might be required in the use of the opiates or purgatives; but he never knew or read of a death from painters' colic. Painters lived as long, he said, as many other workpeople engaged in arduous occupations. The work was not considered healthy, and there was a danger of being poisoned by the lead; but if they were not so poisoned there was no reason why they should not live as long as other people. Vermilion was mercurial, but red lead was not, and he had never known, from the use of either by painters, mercurial symptoms to be caused. He was pressed a good deal whether daily use of the vermilion, with a want of cleanliness and care, might not cause some absorption of mercury, and he said it might, though he had never known it in practice. Some of the vermilion might get from unwashed hands to the bread or other food, and so get into the stomach, and some small portions might be absorbed through the pores of the skin. Before salivation, he said, there would be a peculiar "mercurial factor." Having heard the evidence in the case, he believed that the symptoms were caused by blue pill.

This was the plaintiff's case.

Mr. M. Chambers objected that the case as laid in the declaration was not sustained. It was alleged that the defendant had been retained "as a surgeon and apothecary," which was distinctly denied, and which he contended was disproved. The plaintiff and his wife had merely gone to a common chemist and asked for some medicine for pain in the bowels. There was no retainer as an apothecary.

Mr. Baron Pigott: There is no evidence of his employment as an apothecary, except his acting as such.

Mr. Serjeant Ballantine: Just so.

Mr. Chambers then urged further that the plaintiff's present state was not produced by the pills, but by his taking cold.

Mr. Serjeant Ballantine urged that if a chemist merely sold the medicine asked for, no doubt he would not be liable as an apothecary; but it was quite otherwise if he prepared medicines upon a statement made to him, and prescribed to a patient. If he prescribed as an apothecary, he was liable as an apothecary, just as if a person acted as a surgeon he was liable as a surgeon. For this the learned serjeant cited several well-known cases, and alluded to the recent case of "Ruddock v. Lowe," tried the other day before Mr. Justice Crompton.

Mr. Baron Pigott: There the man was not a qualified practitioner, but acted as such, and prescribed for the plaintiff.

Mr. Serjeant Ballantine: Just so, and he was held liable because, though he was not a medical practitioner, he pretended to be so, and prescribed improperly. So here. The chemist prescribed, and was liable as an apothecary. Then, as to the other objection, the danger no doubt arose from bronchitis, but the bronchitis was owing in a great degree to the state of the system produced by the pills.

Mr. M. Chambers, in reply, urged that the defendant here had acted as a mere chemist. He had simply sold some boxes of pills. He had not prescribed as or held himself out as an apothecary any more than as a surgeon. Indeed, an apothecary did not prescribe, but only made up prescriptions. The defendant, therefore, had not acted either as apothecary or surgeon, as in the cases cited, but simply as a chemist.

The learned Baron said he thought there was evidence that the defendant had held himself out and acted as an apothecary. The plaintiff and his wife said they had repeatedly asked him if they should call in any other medical man, but he said, "No; that he would make up some medicine, and that the patient must persevere." If a person proposed to act as an apothecary he was liable as such, although only a chemist. Then, on the other point he thought that there was evidence that the plaintiff's state was owing to the mercury.

Mr. M. Chambers, in addressing the jury for the defendant said there was a strong professional prejudice against chemists selling medicines, and he thought that one of the medical witnesses was affected by that prejudice, though he admitted that the other eminent medical men who had been examined

were entitled to every respect. Contrasting, however, the opinions of the new school with the old, he said it was a case of doctors differing, and it was hard to hold a chemist liable for a course which was sanctioned by those of any school. His client, however, would deny that he ever gave as much as a grain of mercury in any of the pills; and it had not been proved that the pills analysed were his pills.

Mr. Serjeant Ballantine said he was surprised at the objection; he was ready to prove at once that the pills given to the analyst were those given by the defendant. He never supposed that it would be disputed, nor had any suggestion been made that it was disputed.

The plaintiff's attorney was then called, and proved that he had the pills from the plaintiff which he had given to the analyst.

Mr. M. Chambers having elicited that this was on July 11, observed that this was some time after the action was brought. He should call his client to prove what he had actually given to the plaintiff, and that there was not a grain of mercury in the pills. How the blue pill got into the boxes he declared he could not imagine. He suggested that the whole ease arose out of the ill-will and jealousy of Mr. Trend, and that if any injury was produced by mercury it was not mercury administered by the defendant.

To support this defence the defendant was called, and said his father was a surgeon, who had carried on business in America, and that he had himself intended to be a surgeon, and had studied surgery, and had acted as an assistant to several surgeons. He had thus been engaged ever since the age of fourteen, and, as he was now forty-seven years old, he had been thus engaged for upwards of thirty years. He had carried on business where he was for six years, with two or three assistants (one of whom had left), and during the past two years had repeatedly seen the plaintiff, who, he said, had always appeared in an "extremely emaciated state," and walking in a stooping state, as if suffering under some affection of the bowels, and so as to warrant the impression that he was labouring under painters' colic. On several previous occasions he said he had prescribed and administered medicines for him for that complaint. In May last, when the plaintiff came to his shop, he looked depressed, sickly, emaciated, and very seriously ill. He complained of a pain in his bowels, and being asked by witness if he had not administered medicine to him upon former occasions for a similar disease, he answered "Yes; and that he had done him a great deal of good." Witness said, "Well, I must try and do so again," and proceeded to prepare medicines for him, being told that it was painters' colic. He particularly asked if his bowels were open, and he said they were. He told plaintiff that if he did not get better he should go to a medical man, mentioning Dr. Forshaw particularly, a medical man residing in the neighbourhood. He made up a mixture for the man, a usual form he gave in cases of colic—one drachm of chloric ether, two of compound tincture of cardamoms, two of tincture of lavender, and three ounces of camphor, the whole filled up in a six-ounce bottle with distilled water. This mixture he gave as an anti-spasmodic, and he gave no pills at all the first time. He saw the man again on May 23, and the man said he had been relieved, but that when the medicine was gone the pains came on again, and he wished for more. Witness asked him if his bowels were open, and he said "No, rather constipated." Witness told him it would be advisable for him to go to a medical man, but he answered that he was doing very nicely, and should get on if his bowels were opened. Thereupon witness directed an assistant to make up twelve compound rhubarb pills. The pills were made up according to the prescription in the "London Pharmacopœia"—of rhubarb, aloes, Castile soap, and oil of carraways. He did not himself prepare the pills, but an assistant. These pills were to be taken daily at night. Being shown the boxes containing the pills, which had been produced by the plaintiff's analyst, he said the pills were in a box like that, but he could not say it was in that box. The next time the man came was on May 27, and he complained still of pain. Witness gave him the same pills and some more anti-spasmodic mixture, and again advised him to go to a medical man. On May 29 the man came again, and said he was free from pain, but he was weak; and the witness recommended him to go to a doctor, but he said, "Oh no, you have always done me good; I am only very weak, and want strengthening." Witness gave him more of the anti-spasmodic mixture, with

some bark in it. Once more the witness advised him to go to a medical man, saying that he wondered he had not died before from the quantity of lead he must have imbibed in his system. Next day the plaintiff's wife called and said her husband was in pain, and witness again advised her to go to Mr. Forshaw, but she declined doing so, as it was too expensive, and their little money was nearly exhausted. She further said her husband was confined in his bowels, and he directed an assistant to make up some mild aperient pills, adding only a little jalap. He once more impressed upon her the propriety of going to a medical man, and he never saw either of them afterwards. In the whole of the prescriptions he had given to him or her there was no mercury. It was contrary to his practice to give it unless under medical prescription, or except in the ordinary case of a single blue pill; nor did he keep blue pill made up in his shop. The total value of the medicines he sold was about 9s. He contradicted the statements of the plaintiff and his wife, and declared them to be fabrications. They never asked him whether they should call in some medical man, nor did he ever dissuade them from it, and he only saw the wife once.

By Serjeant Ballantine: The boxes produced are mine, nor have I any doubt that they came out of my shop; but they may have come out of it a year and a-half ago, and I say that if they came out with mercurial pills in them they were substituted for the rhubarb pills, which could not have altered into mercurial pills. I never send out mercurial pills unless ordered. I may have sent out mercurial pills, but not to the plaintiff. Therefore, if he produces them, with mercurial pills in them it is not for me to account for it, that is for the jury to account for. I have not got my books here. I had notice to produce them, and they are not here. There is no entry as to the plaintiff in them, and the notice is to bring any book containing any entry relating to the case. I have no book containing any entry of medicines supplied or sold by me except by prescription. I have a book containing prescriptions entered; a prescription-book for prescriptions brought to me. I don't give credit. I have a book of petty accounts,—credits for small matters. There are only these two books, the prescription-book and the petty-book. There is a third book. I will bring them all to-morrow. I never prescribe mercury. On the 29th of May the plaintiff seemed better, and there were no symptoms of mercury—none of the factor which indicated the presence of mercury; nothing to show that within a day or two his tongue would be protruding and the glands enlarged by salivation. He should say there were no symptoms of mercurial salivation then, and if in a day or two afterwards the tongue was protruding and the glands swollen with salivation there must have been symptoms of it several days before, which any medical man could detect.

Re-examined: If a person buys a box of pills over the counter there is no entry of it in any book; the cash being paid, there is no entry of it; but if it is not paid for there is an entry in the prescription-book. This man always paid for his medicines. I have a book which would show when a box of rhubarb pills was made up. The material called "blue pill" is kept in a jar, and it is served as required—so many grains; but I don't keep blue pill ready made up, and if we sell it made up to order we put "blue pill" on the boxes.

By the learned Baron: If I prescribe blue pill I should not put "blue pill" on the box. But I don't ever prescribe it myself; I give compound rhubarb pill, unless a person comes and asks for a blue pill and a black draught, in which case it is marked on the box.

The assistant being called as a witness, gave evidence in confirmation of his employer's. By order of Mr. Fay, he said he had put up a dozen of compound rhubarb pills. He did not make them up at the time; they were kept ready made, and he had made them himself before, and on other occasions the same pills were given. He swore distinctly that he and his master had advised the plaintiff to go to a medical man, but that he had again and again declined; whereas the plaintiff and his wife positively swore that they had proposed to do so, but that the defendant had dissuaded them from so doing, and said that he "would put him all right." On one of these occasions the witness stated that a customer named Seymour was present. According to this witness's evidence the man kept getting better, and they kept urging him to go to a medical man. On the last occasion, witness said the man stated that he was much better, only he was very weak; and one bottle more medicine would set him

right if it was "made a little more strengthening." Witness stated that his master said, "I wonder you were not dead before this;" to which the defendant said he added, "considering the lead you must have absorbed." On this occasion his master said he put a little bark in the medicine. With that exception there was no difference, and, to the knowledge and belief of the witness, no blue pill or mercury was given, and no blue pill, he said, was kept made up, except a few made up each with a bottle of black draught. With that exception, the blue pill was kept made up "in mass" in a jar.

In cross-examination, the witness stated that his master was in rather a large way of business, and might have sixty or seventy customers in his shop a day. He generally heard the conversation with customers or patients, even although several were in the shop at a time, in which case, of course, he said he must "do the best he could." He could pretty well remember the number of pills given to each patient. The man said he was suffering from painters' colic, and knew that he was treated for it all along.

The customer referred to, Mr. Seymour, was called to confirm this evidence. On this occasion, the 29th of May, he said he was in the shop, however, merely as a friend. The plaintiff came in, he said, and being asked how he was, said he was much better, that his bowels were open, he having, he said, taken some castor oil; that he had not a pain about him, but that he felt very weak, and wished for one more bottle of medicine "made strengthening." The defendant said he would give him something more strengthening, but that if he did not get better he should go to a medical man.

Cross-examined, this witness admitted that he was a very intimate friend of the defendant, and had been "like brothers with him for twenty-five years." He believed him to be a French Canadian. He did not know him in America, but had known him in this country for twenty-five years. On this occasion he went to dine with him—not by particular invitation; it was a common practice; he used generally to dine with defendant on a Monday, and this was on a Monday.

A witness named Greenway, a builder, stated that on June 26th he saw the plaintiff about some "graining." The plaintiff then seemed to have just left work. On the 29th the witness saw the plaintiff's wife, who said he had gone to see his solicitor as to the will of his father, who had recently died, and witness, asking how he was, she said he was much the same as usual. On July 4 witness saw the plaintiff again, and he said he had been to Cambridge to bury his father. He said he had caught a cold, but that he should be able to do work and "knock it off quickly," and that he had given up the case against the defendant, "as his lawyer told him he had no case, and it would be a great expense."

Cross-examined: This was on July 4 (which, it will be seen, from the medical man's evidence yesterday, was about the time he was with his tongue protruding and his glands swollen from excessive salivation). It was then elicited from the witness that he had never employed the plaintiff before, and that on the first occasion, on June 26 (which was four days after this action), the defendant (who, he said, had employed him a good deal) had asked him to go and see the plaintiff and offer him work, with a view to see how he was. The defendant, he also admitted, "had told him about the matter."

Mr. Serjeant Ballantine: So you went, in fact, to get information for the defendant? I won't call it spying, but getting information for him?

Witness: Yes. That was so. And he further stated that he had after this made an affidavit on behalf of the defendant.

Dr. Forshaw, a consulting surgeon, residing in the neighbourhood of the defendant, and to whom the defendant said he had recommended the plaintiff to resort for advice, stated that painters' colic was a very serious complaint, and shortened life (whereas the eminent medical men examined yesterday stated, on the contrary, that it was easily treated, and they had not known any case fatal if properly treated). His practice, he stated, had been very considerable for forty years, and he had met with cases in his experience in which painters had got poisonous substances into their system from the paints they used. He instanced king's yellow (oxide of arsenic) and vermilion (red oxide of mercury), which, he said, might get absorbed into the system—through the skin by absorption, through the stomach by contact of the fingers with food, &c., and through the lungs by inhalation. As a general rule, the age of fifty-four (the plaintiff's age)

was an age at which painters were broken down, although he had known cases in which they had lived to sixty or seventy. There was nothing improper in the treatment the defendant said he had adopted, though it was not the treatment he should himself have adopted.

Mr. Serjeant Ballantine: Oh, of course, we admit—indeed we contend—that the treatment he said he adopted would have been proper.

Mr. Baron Pigott: But that the treatment with mercury would be improper.

The witness went on to state that, supposing no mercury had been taken at all down to May 30, salivation might have taken place within three or four days afterwards. He had known salivation produced within four-and-twenty hours.

Cross-examined: I believe King's yellow is an oxide of arsenic; but I won't adhere to the statement that it is so. I believe vermilion is an oxide, but I am not certain, and won't adhere to a positive statement that it is so.

Re-examined: These substances are preparations of arsenic and mercury.

Dr. Helsham, registrar of the Medical Council, stated that having practised many years as a physician, and having heard the evidence of the last witness (Dr. Forshaw), he agreed with him as to the treatment described as adopted. The substances alluded to are deadly poisons and may get into the pores, and if they did so to a great extent then they might produce bad effects, and the vermilion, if it got into the pores to a great extent might produce salivation, though more slowly than other preparations.

Cross-examined: Blue pill is the proper substance to produce salivation, and it does so very rapidly. But it has a tendency to pass off rapidly, and it is the effects which remain rather than the substance itself; the latter passes off very quickly, unless taken for any length of time. Salivation is the effect, and it may remain, though the substance does not, and salivation may be caused very quickly. I have had salivation myself from a dose of calomel, which, however, is more powerful than the blue pill. The calomel is the bichloride of mercury (so in published report). Blue pill is a milder preparation. Salivation would take place more rapidly in an enfeebled system.

This closed the evidence.

Mr. Baron Pigott asked if there was any evidence when the castor-oil was obtained which, it appeared, the plaintiff had taken.

It was answered that there was no evidence.

Mr. M. Chambers then addressed the jury upon the evidence on behalf of the defendant. It was conceded, he observed, that if the defendant had really treated the plaintiff as the defendant had described there was no cause of complaint against him. A chemist could not be expected to have the skill and knowledge of a physician or surgeon; and although it was true that the defendant had admitted the salivation to such an extent as described in this case would have been detected within three or four days, in that admission he was mistaken. It appeared that salivation might take place in four-and-twenty hours, and might take place more rapidly in an enfeebled state of the system. It was attempted in this case to impose a more heavy responsibility on the defendant than belonged to a chemist. It was unfair to expect from a chemist, who merely sold medicines, the skill of a regular medical practitioner. If the defendant's evidence was to be relied upon, beyond all doubt he was entitled to the verdict. A strong foundation for it was laid by the evidence of the eminent medical men called for the plaintiff who admitted that the avocations of a painter had a general tendency to impair the health and weaken the constitution, and that the substances they used were deadly poisons, and had a tendency in various ways to get into the system and weaken and undermine it. The case for the plaintiff was, that he was a hale, healthy man when he went to the defendant upon this occasion, whereas the very contrary was the truth, and thus the plaintiff's case rested upon a false foundation. The jury could hardly doubt, upon the evidence of the defendant's assistants, that the compound rhubarb pills had been given by the defendant; and that being so, it could not be that the defendant had given these blue pills, to which the mischief was ascribed. If, indeed, the mischief was to be ascribed to the taking of mercurial pills, it was aggravated by the colic taken on the journey to Cambridge in June. Certain blue pills were produced in boxes admitted to be the defendant's

but the defendant denied having given the plaintiff any blue pills at all. He could not show where the blue pills came from, but they were not shown to the attorney until some time after the action was brought. The affidavit of the plaintiff's attorney as to the state of the plaintiff a month ago showed that there was a disposition to exaggerate and misrepresent the case. It was manifest that the pills shown to the analyst must in some way have been substituted for the others, for the attorney said he did not have them from the plaintiff until the 11th of July. Why had they not been sent before? The truth, then, was that these pills were not given to the analyst until some two weeks after action. Some mystery hung over the question where these pills came from. Castor-oil had been obtained elsewhere, and perhaps the blue pills had been, and put into the defendant's boxes. According to the defendant's evidence he had been applied to as a chemist selling medicines in his shop—perhaps recommending such as he thought best, but still merely as a chemist, advising the man to go to a medical man.

Mr. Baron Pigott said he should strike out the words "as a surgeon and apothecary" in the declaration. They appeared quite immaterial, for the substance of the case, as it had been fought out on both sides, was whether the defendant had, in fact, treated and attended the defendant for his disorder. If the defendant's evidence was believed, it was admitted that his treatment was right; and really it came very much to this, whether the defendant's case or the plaintiff's was to be believed.

Mr. Serjeant Ballantine said that was so, and he acquiesced in the amendment, and then proceeded to address the jury in reply on the part of the plaintiff. He pointed out that the case on the other side, though veiled in a cloud of words, and though its clear expression was shrunk from, came to this—that the plaintiff and his wife, in conspiracy with their medical man, Trend, had substituted for the pills dispensed by the defendant pills supplied by Trend or obtained elsewhere. That was what it really came to, and no wonder that the counsel on the other side shrunk from the clear expression of it. They had indeed conducted the case most unfairly, and in a manner marked by the most remarkable inconsistency. Up to the close of the plaintiff's case they had urged most strenuously that mercury was the proper treatment for the plaintiff's case; and then, failing in that, at the last moment they suddenly started another and utterly different case—that mercury was not given by the defendant at all. And, after allowing the plaintiff's case to be closed without suggesting the least doubt that the pills analyzed were the pills dispensed by the defendant, they set up that they were other pills which had been substituted for them. If the defendant had not dispensed mercury, why had he striven so long to show that it ought to be given? If it was right to give it, why had he not given it? If he had not given it, why had he sought to show that he ought to have given it? The case for the defendant was inconsistent and self-destructive. There could be no doubt that the plaintiff had taken mercury. Probably even the other side would shrink from the suggestion that his medical man had put him through a course of mercury such as to endanger his life merely to get up an action against the defendant. Surely that would be something too monstrous to believe, or even to suggest or to conceive. The issue raised was far too broad to depend upon minute points. There were the most marked and flagrant contradictions in the defendant's evidence. The most marked contradiction of all was, that on the occasion of the last visit of the plaintiff he thought him tolerably well, and yet strongly recommended him to go to a medical man; and remarked that he was surprised he had not died before that. A great deal of nonsense had been talked about painters. No doubt, if they used embrocations of arsenic, or rubbed mercury into their hands, they would be likely to die. The man went into the defendant's shop a tolerably healthy man, and by the defendant's treatment he had been brought down to the point of death. Unless he and his wife and medical man were foul liars, they could not have invented the symptoms under which they described him as labouring at the end of May or the beginning of June. Was that an entire fabrication? If so, then the symptoms were, beyond all doubt, those of mercurial salivation, and must have been the result of the defendant's treatment; and that treatment must have been mercurial. He could not

have got into that state merely by means of rhubarb or jalap. The idea of referring the salivation to the vermilion was ridiculous. Vermilion contained little mercury, not enough to salivate through contact with the hands, unless absorbed in large quantities; and painters were not always rubbing vermilion into their hands. It did not contain much mercury; it was not an oxide, but a sulphate (so in report); and the eminent medical men examined for the plaintiff negated the notion that the casual absorption of it could cause such excessive salivation. Nor was there any evidence of the recent use of it by the plaintiff. Where did these blue pills come from? Were they, indeed, substituted fraudulently for the defendant's? Why? By whom? Could it be supposed for an instant that this working man and his wife had done such an act? Yet they must have done so if it was done at all; for the analyst swore that he had them from the plaintiff's attorney; and the plaintiff's attorney swore he had them from the plaintiff. If it had been meant to suggest such a case of fraud, surely it would have been but fair and honest to suggest it to the plaintiff and his wife in cross-examination, and enable them to answer it. Yet this scandalous charge had been reserved until the close of the plaintiff's case, and then sprung upon him suddenly, by way of a surprise. The undoubted fact was, that the plaintiff was found suffering under excessive salivation; and the only thing he had taken to cause it was the defendant's blue pills; and the defendant, having thus brought the plaintiff to the verge of the grave, was good enough to suggest that he ought to be glad he had not died before. This view was supported by a tissue of the most monstrous and manifest absurdities. Behind his learned friend sat a medical man (Mr. Pollock), a member of an eminent family, and destined in his own profession of medicine to emulate the lustre it had already acquired in that of the law; but his learned friend had not ventured to call that gentleman to sustain the theories as to painters, and to show that they were perpetually poisoning themselves. Some mistake on the part of the defendant's assistants might account for the whole matter. Among the sixty or seventy daily patients or customers, how easily one person might have been mistaken for another in their memory, or the medicine of one confounded with that of another; whereas, on the other hand, the plaintiff and his wife could hardly be mistaken. If their evidence was not true, it must have been foully false. Despite all the perjury and absurdity which had been imported into the case, the truth was plain. The poor man had been poisoned in that druggist's shop, and with the drugs which came out of it; and when he crawled into court—a man prostrated in health, his bones racked with pain, the shadow of death upon him—to claim redress, he was insulted in this most atrocious and infamous defence with the imputation of the foul crimes of perjury and conspiracy. These imputations the jury would not fasten upon him, but would, in these, his last hours upon earth, at all events administer to him the melancholy satisfaction of reflecting that at least his wife and children would not be left destitute behind him.

The learned Baron then summed up the case to the jury. He should, he said, leave to the jury two main questions—first, whether the defendant did undertake to treat the plaintiff for his disorder; secondly, whether he treated the plaintiff so carelessly or ignorantly as to impair his health or injure his system? This would probably become a question whether the defendant had given mercury, and that in the result would practically resolve itself a good deal into this—whether the jury believed the evidence for the plaintiff or the defendant. At one time it appeared that it would be made a question whether treatment with mercury was proper or not. But it was at length admitted that it was not so. There was no question, then, that mercurial treatment was improper, and the main question would be whether it was given by the defendant. That question involved several others. Was the man salivated? If so, how? Was it by blue pills? If so, where did they come from? It could hardly be doubted that the man had suffered under salivation and by reason of blue pills. Where did they come from? Was it probable that they came from some other chemist, and that while getting medicine from one shop the plaintiff was going to another shop and getting mercurial medicine, and then came here to commit the most foul and wilful perjury by swearing that he had it from the defendant? None but a madman, as well as a most wicked

man, would so act. It was more probable that there might have been some mistake in the defendant's shop. If the jury believed the plaintiff the blue pills came from that shop. If they believed the defendant, he did not give them or direct them, but still they might have come therefrom by some mistake. The learned judge then went very fully into the evidence. He observed that certainly up to the close of the plaintiff's case he had supposed the defendant's case would be that he had rightly given mercury, whereas at the last the case started was that he gave none. He observed also that it was remarkable that while the plaintiff and his wife swore that at every visit almost they suggested that they should have medical advice, and that the defendant dissuaded them from it, he and his assistant on the other hand swore that they were always urging them to go to a medical man. He observed that in the cross-examination of the plaintiff there had been no suggestion that he had substituted other pills for those he had from the defendant, in defendant's boxes. Beyond all doubt the pills contained in the boxes when handed to the analyst contained four grains of mercury; and the plaintiff stated he was to take them twice, morning and evening. The evidence of Mr. Trend, the plaintiff's medical man, established that when he saw him he was suffering under symptoms of salivation. The jury would judge whether his evidence was to be ascribed to ill-will towards the defendant, and to be disbelieved. With reference to the question of damages, it might be material to bear in mind that when the plaintiff went on his visit to Cambridge in July he was better, and that he there caught a cold; though, on the other hand, it was stated that the effects of the mercury had been to enfeeble the plaintiff, and render him more likely to take cold, and aggravate the cold when caught. After all, the evidence of Mr. Trend only confirmed that of the plaintiff and his wife, and it was for the jury to say whether they could adopt the theory of perjury. According to Mr. Trend's evidence the salivation had ceased before the visit to Cambridge, though its effects—extreme weakness—still remained. The other eminent men examined for plaintiff stated that on the 25th of July they found him labouring under bronchitis, and that salivation would leave him in a condition more susceptible of bronchitis, and that they did not doubt that he had been salivated by mercury administered in the blue pill. Much had been made of the fact that the pills had not been analyzed until after action; but he did not know whether anything turned upon it. The plaintiff and his adviser had already heard from his medical man that he had been salivated, and he knew the pills he had taken, and it would not be until legal evidence of their contents became necessary that they would be submitted to analysis. Commenting upon the evidence of the defendant he observed that it was utterly at variance with the plaintiff's from first to last. Thus at the outset he stated that he had often during the last four or five years given him remedies for colic; whereas, the plaintiff swore he had never been in the shop before. Was the defendant mistaken in the man? Or was the plaintiff swearing falsely? He observed that the defendant stated that he did not himself prepare the pills, but directed his assistant to do so. He also observed that the defendant stated that he said to the plaintiff on the last occasion that he wondered he had not died long before from the quantities of lead he had imbibed. At the same time the defendant stated that, on the 29th of May, the plaintiff seemed better, and "only wanted one more bottle," and yet that he advised him to go to a medical man; and on the 31st the plaintiff's medical man found him in the state he had described. According to the defendant's statements, he was always, from first to last, urging the plaintiff to go to a medical man. It seemed singular that, if this were so, the plaintiff should so often decline to do so, and yet that on the 31st, a day or two after (as the defendant stated) he was so much better, he should have gone to a medical man. Also, if, indeed, the defendant thought that the plaintiff was so bad that he again and again urged him to go to a medical man, it was strange that he should, nevertheless, have gone on prescribing and preparing medicine for him. Having read the evidence of the assistant, that the pills were rhubarb, not mercury, the learned judge observed that the only suggestion he could make to avoid the conclusion of wilful perjury and conspiracy on one side or the other was, that there might have been some mistake; and that, while the assistant supposed he was giving out rhubarb pills, he was giving blue pills.

Adverting to the topic of the plaintiff's affidavit to change the *venue*, of which so much had been made, the learned judge observed that it merely seemed to come to this,—that the plaintiff's attorney at that time hoped his client might recover, and he was anxious that the jury should see him while he was at the worst that they might the better estimate the injuries he had received; but that since then the plaintiff had become rapidly worse, and as to his present condition and his present prospects of recovery, which were all that was now material, the jury must judge upon the evidence upon them. The great point was, whether they were satisfied that the defendant administered the mercury to the plaintiff, and so caused the salivation he had suffered. Upon the whole case, the learned judge observed that the plaintiff, of course, could only recover damages for the injuries caused by the defendant's conduct, and if those injuries had been aggravated by want of care and caution in catching a cold, to that extent he was disentitled to recover. It might be difficult for the jury to draw the distinction, but they must try to do so. They must only give damages for the injuries caused by the negligence or ignorance of the defendant. They must not punish the defendant by their damages for setting up a case in his defence which they might, perhaps, deem incredible. If in the result they arrived at the conclusion that the plaintiff was entitled to recover, and that the injuries of which he complained were caused by the negligence of the defendant, then they should give such damages, and such damages only, as rose out of injuries caused by that negligence.

The jury retired to consider their verdict, and, on their return, they gave a verdict for the plaintiff—damages £100.

A QUACK PUNISHED.—RUDDOCK v. LOWE.

The proprietor of the Strand "Anatomical Museum"—one of those disgraceful traps which the quacks of London are permitted to keep open—has made his appearance at the Croydon Assizes as the defendant in an action for malpractice. The evidence showed that the plaintiff having been enticed into the museum by a man in livery, was presented with a copy of a filthy book about "Dr. Lowe" and his successful treatment of venereal disease; that he then placed himself under Lowe's care, and that from December until the end of March he continued to take the "Doctor's" physic (which appears to be a weak solution of corrosive sublimate), the result being salivation.

In the cross-examination of the defendant by Mr. Hawkins, it came out that he had been connected with the turf since the age of sixteen or eighteen. He had not qualified in this country as a medical practitioner, and had been threatened with a prosecution for practising without being qualified, but he said he had a diploma from the "Reformed Medical Society of America," for which he was examined and paid the sum of two guineas. He had connected himself with Abercrombie in December as a "protection," Abercrombie being, he said, a registered member of the Royal College of Surgeons. He had practised in Glasgow for some years in the cure of venereal disorders, and had issued there, as in London, little books of the character which had been described. Copies of two of the books put forth from the "Strand Museum"—one under his own name, and the other in the name of Abercrombie, were put into his hands, and passages therefrom were read to him, and he was challenged amid roars of laughter to verify them upon oath. He admitted that as many as three-quarters of a million of copies had been issued, and he admitted also that some of them had been distributed at the doors of the museum or in the street. He declared that the letters put forth, purporting to have been received from patients, had been so received, but he admitted that some addressed to himself had been published as addressed to Abercrombie. He was challenged particularly with this passage in his book—"I seek my remedies in far off climes; some in the distant prairie, some in the ever-blooming balsam; in the western climes, where eternal summer reigns," and amid roars of laughter, he was asked to state what remedies he got from the far off climes or the distant prairie, and after much pressure admitted that he could not state any, though he had been, he said, abroad—in America. The jury found a verdict for the plaintiff—damages £100—a verdict which seemed to give general satisfaction, and, indeed, elicited some audible expressions of it.

Another action against the same defendant—Adams v. Lowe—was settled by the plaintiffs consenting to take a verdict for £70.

THE ASHBURTON POISONING CASE.

Mr. Charles Gordon Sprague, a surgeon, was tried at the recent Devon Assizes, on the charge of poisoning his wife and father and mother-in-law, at Ashburton. The three persons suffered severely after eating a rabbit pie, into which it was suggested the prisoner had put atropine. After a trial which lasted for some hours the prisoner was found not guilty. The evidence altogether was incomplete and unsatisfactory. The tests applied by Mr. Herapath, sen., indicated the presence of atropine in the pie, but no evidence was brought forward to prove that the prisoner had introduced the poison.

CONFESSION OF PRITCHARD.

To finish the horrible story which occupied so much of our space last month, we must record the fact that the prisoner Pritchard was executed at Glasgow on the 28th ult., after having made a second confession, in which he stated that he poisoned his wife and mother-in-law in the way described in the indictment.

AN IMAGINARY POISONING CASE.

At the Marylebone Police Court on the 2nd inst., Dr. Watson Bradshaw, of Welbeck-street, asked advice under the following singular circumstances:—A short time ago his cook left his service in a very abrupt manner, and two days afterwards he received a message from a house at the West-end that she was at the point of death.

On going to the house mentioned he ascertained that two days previously the cook had arrived there, saying she was very ill. A medical man was sent for, who, after asking certain questions, exclaimed, "Good God, you have been slowly poisoned!" He then advised that a bottle of medicine which the applicant had prescribed for his servant, and also a small quantity of wine his wife had given her, should be analyzed. When the cook came downstairs to see him she was apparently in good health. He called in two medical men, both of whom stated that nothing was the matter with the woman. He then saw the first medical man, who would give no explanation of his conduct, and he wanted to back-out of what he had said. When the cook was in his service she was much subject to hysterical mania, and the only medicine he gave her was composed of ammonia and gentian. Her disease appeared to have become more serious on reading the report of the trial of Dr. Pritchard. The woman's brother had been to his butler and charged him with having administered mineral poison to his sister.

Mr. Mansfield said that, although the application was a proper one, yet he had not any jurisdiction in the matter. Who on earth would poison a cook when she could be discharged at any time? As a rule, hysterical people were full of vagaries, and they would be affected nervously by reading reports of the Pritchard case.

The applicant, after thanking his worship, retired.

ACTION FOR WRONGFUL DISMISSAL—TABRAHAM V. FOGGITT.

This action was tried at the Leeds Assizes, on the 7th inst. The plaintiff in 1864 entered into the service of the defendant, a wholesale and retail chemist at Thirsk, as manager, at a salary of £250 a year, for a term of three, five, or seven years, at the plaintiff's option. In October, 1864, when the plaintiff had been in the defendant's service six months, the latter intimated that he had changed his mind, and that the plaintiff must look out for some other employment. Some mention was made of compensation for the termination of the engagement, and the defendant offered the plaintiff £125 and his expenses. Nothing further took place at that time, but in the following February the defendant gave the plaintiff formal notice to quit on the 1st of April. The plaintiff did quit accordingly, and on his doing so the defendant offered him £125, which the plaintiff said was not enough. The defendant refused to pay anything further, and this action was brought in consequence.

At the close of the plaintiff's examination in chief, a consultation took place between the counsel engaged, and ultimately

Mr. Digby Seymour stated that an arrangement had been arrived at, that the plaintiff should take a verdict for £225.

IMITATION OF LABELS.—BLACKWELL v. WILLS.

On the 27th ult. a motion was made before Vice-Chancellor Sir W. P. Wood, on behalf of the well-known firm of Crosse and Blackwell, for an injunction to restrain the defendant from selling pickles with labels in imitation of those used by the plaintiffs.

In the labels complained of the defendant, who had been formerly in the employment of Crosse and Blackwell, placed his own name with the Royal arms and the words, "From Crosse and Blackwell," which last words were printed somewhat prominently.

Before the case was argued out the defendant, who appeared in person, gave an undertaking to use for the future that one of his labels only which contained his own name and not the Royal arms; and not to style himself, "From Crosse and Blackwell" only, but to state that he was late foreman in that firm.

CHLORATE OF MANGANESE.—ALLHUSEN v. CROLL.

This case came before Mr. Baron Bramwell and a special jury on the 18th ult. at Newcastle-on-Tyne. An action was brought against the defendant, a manufacturing chemist in London, for not accepting a bill of £267 6s. 10d. in payment for a quantity of chlorate of manganese supplied to him during a considerable space of time by Messrs. Allhusen, of Gateshead, and for refusing to accept and pay for more of the salt in pursuance of contract. It appears that the defendant some time ago found that chlorate of manganese was useful in the manufacture of gas as a purifying agent, and thinking that a profitable trade might be done in it with the various gas companies, he entered into a contract with Messrs. Allhusen to be supplied with it for a period of three years, at a rate of twelve tons weekly, at a price of £3 3s. per ton. The article was regularly supplied for a considerable time, and part of it, to the value of £160, was paid for, but the remainder of that supplied, to the value of the amount of the bill, was not paid for, while the defendant refused to continue to accept any more. The defence was that the article had fallen off in quality, and was of no value for the purpose for which it was intended, and the defendant had consequently been driven to obtain it elsewhere. There seemed to be a question, however, whether it was not rather in consequence of the article not proving so useful in the process of purification as had been anticipated by the defendant, and of the demand for it falling off, that he had shown reluctance to go on with his bargain, and the jury returned a verdict for the amount of the bill with interest, his lordship having directed them that there had been no offer of the manganese, beyond what was actually supplied, to entitle the plaintiff to recover for the breach of the agreement to accept.

NOXIOUS VAPOURS FROM TIN-WORKS.—KITTO v. WATSON.

In this case which was tried at Bodmin on the 5th inst. a farmer recovered damages to the amount of 40s. for injury done to his property by arsenical vapours proceeding from the works connected with Wheal Grylls Mine. The evidence of Mr. Herapath, sen., of Bristol, the well-known analytical chemist, showed that one of the farmer's cows had been poisoned by arsenic.

GAZETTE.

BANKRUPTS.

CHAMBERS, W. N., late of Manchester, drysalter.
CRIBB, THOMAS, Upper Norwood, chemist.
CROSLY, BENJAMIN WILSON, Leeds, chemist.
GREAVES, EDWIN TRACEY, Cardiff, chemist.
SCOTT, JOEL, Market Harborough, chemist.
SHELLER, R., Crucifix-lane, Bermondsey, operative chemist.
STAPLES, J., Catherine-street, Strand, patent medicine vendor.

PARTNERSHIPS DISSOLVED.

BENNETT AND Co., Providence-row, Finsbury, wholesale perfumers.
ELLIS AND SWALLOW, Wakefield, manufacturing chemists.
LAWRIE, W., BLOTT, J. and J., Bromley, Middlesex, and Great Yarmouth, manufacturing chemists; as far as regards W. Lawrie.
SARGEANT AND SON, Southampton, soda-water manufacturers.

SCOTCH SEQUESTRATION.

HARDMEAT AND Co., Glasgow, india-rubber merchants.



LONDON, AUGUST 15, 1865.

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EDITORIAL NOTE.

To prevent misapprehension we have to inform our subscribers that the CHEMIST AND DRUGGIST is not in any way connected with the Advertising Circular issued by the Wholesale and Export Drug Company (Limited).

MR. BETTS AND HIS CAPSULES.

SEVERAL chemists and druggists in London have lately exhibited alarming symptoms of irritation whenever the common surname "Betts" has been mentioned in their hearing, or whenever they have caught sight of a metallic capsule. This morbid irritability has been induced by the vexatious proceedings instituted by a manufacturer of capsules who has conceived a grand scheme for recovering some of the money squandered in establishing the validity of his patent. A month ago Mr. D'Aubney informed his brethren, by a letter printed in this journal, that he had been served with a Chancery process, and warned them of the danger of selling preparations in capsuled bottles. Mr. D'Aubney's communication reached us just as we were going to press, and our number was printed and published before we received the startling intelligence that Mr. Betts had commenced proceedings against no fewer than twenty-three chemists and perfumers. Knowing that Mr. D'Aubney's shop was close to Mr. Betts's factory, we imagined that the capsule maker had started a quiet little Chancery suit merely to gratify his appetite for litigation, and carry out some peculiar notion of his duty towards his neighbour. We now admit that we did Mr. Betts an injustice in taking such a narrow view of his conduct. Neighbourly feeling may have prompted him to choose our correspondent as his first victim, but it is quite clear that his wholesale proceedings must be ascribed to some more potent motive than a craving for the excitement of a lawsuit. There can be no doubt that this motive is the belief that his numerous actions will bring in a good round sum. He has spent thousands in attacking rival manufacturers, and now seeks to cover his loss by damages wrung from retail dealers, who have unwittingly sold foreign capsules on bottles of toilet vinegar and similar articles. His project, though not exactly consonant with morality, may

prove successful, for, in the words of Swift, "laws are like cobwebs, which may catch small flies, but let wasps and hornets break through."

Lord Stanley, in his recent address to the Birkenhead Chamber of Commerce, said that the evidence given before the commission appointed to consider the working of the patent law, had driven him to the conclusion that patents for inventions did more harm than they did good. The history of Betts's patent supports this conclusion. It has been the subject of numerous and protracted proceedings in most of the superior courts, and now, when it has but two years and a-half to run, Mr. Betts reckons up his losses, and finds that they amount to more than £30,000. The patent was obtained in 1849, but Mr. Betts has since obtained from the Privy Council a prolongation of it for five years after the period of its expiration in January, 1863. The claims made under the patent are:—1. The manufacture of the new material, lead combined with tin on one or both of its surfaces, by rolling or other mechanical pressure. 2. The manufacture of capsules of the new material, of lead and tin combined, by mechanical pressure.

The main objection raised against the patent in the various proceedings it has given rise to has been want of novelty, and several defendants have contended that a similar patent was granted to one Dobbs so far back as 1804.

It matters little now whether Dobbs was or was not the discoverer of the process of combining lead with tin by mechanical means, for the final decision of the judges has established the validity of Betts's patent.

The twenty-three defendants in the present actions were informed of their alleged infringement of the patent, and of the proceedings commenced against them by the following circular:—

"London, 11, Cannon Street West, July 10, 1865.

"SIR,—I am instructed by Mr. William Betts, of Wharf-road, City road, Patent Metallic Capsule Manufacturer, to commence proceedings against you for an infringement of his patent, by the use and sale of metallic capsules on bottles, which capsules have not been made by him but of precisely similar materials. It would be idle to assume, after the number of years that the capsules made by the patentee have been before the public, and the protracted litigation in the law courts in respect thereof, that you can be ignorant of the decisions of the judges in favour of the patentee; and as recently as the 2nd of June last, it may be found on reference to the *Times* newspaper of the following day, that an Injunction was granted by his Honour the Vice-Chancellor Sir Wm. Page Wood, in the case *Betts v. Neilson*, restraining the use in England of foreign-made capsules. Notwithstanding these repeated decisions, the use of capsules, made in infringement of the patentee's, has steadily increased, and there is no other mode of endeavouring to stop the use of them, and obtaining compensation in damages, than by proceedings in Chancery, which the patentee has determined to take against all infringers.

"I remain, your obedient servant,
"F. KENT.

"P.S.—The case of *Betts v. Neilson* came on, upon appeal to the Lord Justices, on Friday and Saturday last, and was dismissed, as may be seen on reference to the newspapers."

On the 12th of July bills were filed in Chancery, and on the very next day the processes were served. This was sharp practice with a vengeance! The defendants were ignorant of the fact that the capsules upon Rimmel's Toilet Vinegar and other articles sold by them were illegally used. It was impossible to distinguish them from pure tin capsules, or even from some capsules made under Mr. Betts's patent. If they had really violated the law they had done so unknowingly.

Some of the innocents doomed for slaughter by Mr. Betts and his lawyer are members of the Pharmaceutical Society, and we have much pleasure in recording the fact that the officers of the Society have earned the gratitude of all the defendants by freely giving them their advice and assistance. The following circular, with the copy of letter annexed, was issued by the secretary to the members of the Society:—

"Pharmaceutical Society of Great Britain,

"17, Bloomsbury-square, W.C., July 26, 1865.

"DEAR SIR,—Bills having been filed in Chancery by Mr. William Betts against many retail chemists and druggists and others, for selling articles capped with capsules alleged not to be of his manufacture, these dealers having acted in entire ignorance, I have been instructed to consult our Solicitors as to the best means of vendors protecting themselves from such frivolous and extortionate suits, and annexed I send you a copy of their reply.

"It may be desirable to give a friendly intimation to your non-pharmaceutical brethren, and perfumers, grocers, and others, whom you may think exposed to these vexatious proceedings; and I shall be obliged by your communicating to me any information which may bear upon the question.

"I am, dear Sir, obediently yours,

"ELIAS BREMIDGE, Secretary and Registrar."

"1, East India Avenue, Leadenhall-street, London,
"July 22, 1865.

"DEAR SIR,—Referring to the instructions received by us to advise respecting the twenty-three Chancery Suits filed by Mr. Betts against retail chemists, &c., we mention that, so far as we can learn, it is impossible to distinguish capsules manufactured by Mr. Betts from those not manufactured by him (he not having universally used any distinguishing mark), and that, consequently, the only course now really safe from the annoyance of suit is neither to take nor keep in stock any capsuled article.

"We are, dear Sir, yours truly,

"FLUX and ARGLES."

"Elias Bremridge, Esq.

Mr. Rimmel's conduct will not soon be forgotten by the trade. On learning that a number of bills had been filed in Chancery against retail dealers in his articles, he generously offered Mr. Betts £1,000 to stop the proceedings. In our Correspondence Mr. Rimmel tells his own story, and gives us an insight into Mr. Betts's peculiar mode of doing business. A committee, consisting of defendants in these actions and others who consider themselves possible defendants in future actions, has been formed, with Mr. Bremridge as honorary secretary.

We trust that their united deliberations may lead to a determination to try the question; our own conviction being that, in face of Mr. Rimmel's honourable offer, and the ungenerous advantage sought to be taken thereof, that no intelligent jury will lend themselves to such a paltry attempt to crush the unwittingly offending tradesman, whose only share in violating the patent consisted in selling over his counter a few bottles of scent.

The following circular has called forth many encouraging offers of support:—

"17, Bloomsbury-square,
"August 7th, 1865.

"DEAR SIR,—A Committee having been appointed for the purpose of making provisional arrangements for a public meeting, to consider the operation of the patent laws as illustrated by recent proceedings respecting the sale of articles bearing metallic capsules, I have been directed by the Committee to bring the matter under your attention, and to request the favour of a communication from you, stating your willingness to support the movement, and whether you will attend such meeting.

"I am, dear Sir,

"Yours obediently,

"ELIAS BREMRIDGE, Hon. Sec."

The London agents for De Jongh's cod-liver oil have been compelled to issue a circular informing their customers that the capsules they use are Betts's. We strongly advise them to discontinue using them, for, though they cannot breed litigation, we do not think that the trade will like to see metallic capsules on any articles until Mr. Betts's patent has expired.

At Dover the chemists and druggists and others interested in the sale of articles which have hitherto been supplied to them in capsuled bottles, have just passed a resolution to the effect that they "have determined and do hereby agree that they will not order or sell any metallic capsuled articles whatever, and that they will destroy all metallic capsules on hand of whatever kind or description." Bravo Dover! We trust that other towns will profit by your example.

BRITISH PHARMACEUTICAL CONFERENCE.

THE Meeting for the present year will be held at Birmingham, at the Odd Fellows' Hall, Temple-street. It will commence on Tuesday, the 5th September, at 10 A.M., and be continued on Wednesday, the 6th, at the same hour, and on Thursday and Friday, 7th and 8th September, at seven o'clock in the evening.

Many interesting papers on Pharmaceutical subjects are already promised, and others will, doubtless, be sent in. A large gathering of members is expected: the presence also in the town of the members of the British Association for the Advancement of Science, from the 4th to the 16th of September, will be sure to render a visit to Birmingham even more pleasant and instructive than usual. The Honorary Local Secretary, Mr. W. Southall, jun., 17, Bull-street, Birmingham, has kindly offered to assist members in obtaining private or hotel apartments, and to forward any information they may desire concerning the general and special matters of interest offered to visitors.

A full Report of the proceedings of the Conference, with Abstracts of the Papers read, will appear in the next number of the CHEMIST AND DRUGGIST.

THE CASE OF JONES v. FAY.

THE following article, from the pen of Mr. Edward Draper, the well-known solicitor, of Charlwood-street, Pimlico, appears in the *Illustrated Times* of last Saturday:—

"A case of great interest to chemists and druggists was tried at Croydon. A journeyman painter was attacked by a disease common to men of his trade, and known as 'painters' colic.' This disorder is the natural and inevitable result of the absorption into the system of the emanations of white-lead, turpentine, varnishes, and rancid oil. The painter, named Jones, went to a chemist and druggist named Fay; and Mr. Fay furnished him with certain medicaments, but recommended him to obtain medical attendance and advice. Jones subsequently brought an action against Mr. Fay for having caused him to be salivated and seriously distempered in body. The chief evidence in the cause was a box of pills; and it was proved that these pills contained mercury, being, in fact, the common blue pill. The defendant admitted that the box had come from his shop, but deposed that he had never administered blue pill to the plaintiff. As reported, the evidence upon the material point, as to whether the defendant had administered these pills to the defendant, strikes us as being curiously defective. Still, the jury might well hesitate to adopt the shocking suggestion that blue pills had been substituted, fraudulently and in aid of the action, for the harmless, if not beneficial, medicaments supplied by the defendant. This was a matter for the jury, who saw the plaintiff, sickly, debilitated, and all but prostrate, in the witness-box, and returned a verdict in his favour, with £100 damages, in spite of Mr. Fay's evidence that he had never administered mercury in any shape or form to the plaintiff. From the verdict of the jury it is not for us to express dissent, since such expression might be hazardous; but we would beg to point out that such verdict assumes the right of the 'chemist and druggist' to prescribe in his own shop. This has long been a contested point. Now, if Mr. Fay had no right so to prescribe, he could not have been rendered liable for damages. This may seem paradoxical, but is not really so. If one man employ another out of the vocation professed by the latter—say a bricklayer to draw a tooth—there can be no action for negligence or unskilfulness. Therefore, the verdict against Mr. Fay is a judicial acknowledgment that the chemist and druggist may lawfully prescribe in his own shop. It does not follow that he may charge for prescribing, but the charge which he places upon his medicaments (whether the ingredients be known or unknown to the purchaser) may surely be at his own discretion, as it is at that of the purchaser to accept or refuse them."

CHEMISTRY IN THE WITNESS-BOX.

THE evidence adduced in the case of Jones v. Fay, if reported correctly in the columns of the *Times*, proves that the "chemistry of common life" is little studied by certain members of the learned professions.

Dr. Forshaw, a consulting surgeon, described King's yellow as "oxide of arsenic," and vermilion as "red oxide of mercury." Being cross-examined, he said, "I believe King's yellow is an oxide of arsenic; but I won't adhere to the statement that it is so. I believe vermilion is an oxide, but I am not certain, and I won't adhere to a positive statement that it is so."

Mr. Serjeant Ballantine, in his address to the jury, made an attempt to amend the witness's chemistry with respect to vermilion, but did not venture to explain the constitution of King's yellow. Vermilion, according to the learned serjeant contained little mercury; it was not an oxide, but a "sulphate."

Any chemist's apprentice could have informed the jury that King's yellow is an impure trisulphide of arsenic (AsS_3); and that vermilion is a sulphide of mercury (HgS), containing about 86 per cent. by weight of mercury.

Another strange mistake appears to have been made by Dr. Helsham, the Registrar of the Medical Council, in describing calomel as the "bichloride of mercury." If we follow the "British Pharmacopœia," and take 100 as the atomic weight of mercury, calomel will be the sub-chloride (Hg_2Cl), and if we follow those chemists who double this atomic weight, it will then be the protochloride ($HgCl$). No accepted view of the constitution of calomel accords with the name of "bichloride of mercury."

ON THE COMMERCIAL USE OF FLOWERS.

MR. EUGENE RIMMEL delivered a very interesting lecture on the commercial use of flowers, at the Royal Horticultural Gardens, on June 27. After alluding to the ancient method of perfuming by the combustion of aromatic woods, gums, and resins, which gave origin to the term perfume, from *per fumum*, through smoke, he described the different methods of obtaining the aroma of plants at the present time, such as distillation, maceration, absorption, and expression.

The growth of flowers was described as being principally carried on in the neighbourhood of Cannes and Nice, in the south of France, and as giving employment to upwards of ten thousand people,—a number that will not excite surprise when the quantity of flowers, etc., required to make one pound of essential oil is taken into consideration.

These quantities are given in the following list:—

	lbs.
Roses (<i>Rosa centifolia</i>)	10,000
Orange flowers (<i>Citrus bigaradia</i>).....	1,000
Orange leaves "	500
Geranium (<i>Pelargonium odoratissimum</i>)	500
Lavender (<i>Lavandula vera</i>)	120
Spike (<i>Lavandula spica</i>)	80
Thyme (<i>Thymus vulgaris</i>)	200
Wild thyme (<i>Thymus serpyllum</i>)	200
Rosemary (<i>Rosmarinus officinalis</i>)	100
	Fruits.
Bergamot (<i>Citrus bergamia</i>)	2,000
Lemon (<i>Citrus medica</i>)	1,500
Orange (<i>Citrus aurantium</i>).....	1,800

With regard to the establishment of flower-farms in England which has been advocated by some persons, Mr. Rimmel makes the following practical and sensible remarks:—

"It has been proposed to cultivate flowers in England for perfumery purposes, but the climate renders this scheme totally impracticable. English flowers, however beautiful in form and colour they may be, do not possess the intensity of odour required for extraction, and the greater part of those used in France for perfumery would only grow here in hot houses. The only flower which might be had in abundance would be the rose, but the smell of it is very faint compared with that of the Southern rose, and the rose-water made in this country can never equal the French in strength. If we add to this the shortness of the flowering season, and the high price of land and labour, we may arrive at the conclusion that such a speculation would be as bad as that of attempting to make wine from English grapes. As a proof of this, I may mention that I had a specimen submitted to me not long since of a perfumed pomade which a lady had attempted to make on a flower-farm, which she had been induced to establish in the north of England, and it was, as I expected, a complete failure. The only two perfumery ingredients in which the English really excel are lavender and peppermint, but that is owing to the very cause which would militate against the success of other flowers in this country, for our moist and moderate climate gives those two plants the mildness of fragrance for which they are prized, whilst in France and other countries they grow strong and rank."

It always gives us pleasure to meet Mr. Rimmel, either in the lecture room or in his character of an author; we are always certain to derive some new information respecting his peculiar specialité; he is invariably earnest in his subject, and at once intelligent and intelligible.

THE PARIS EXHIBITION, 1867.

In every international exhibition yet held the separation of the contributions of different countries has interfered with the systematic arrangement of the whole display into classes. Thus, at South Kensington the British chemicals were placed in the eastern annex, the French chemicals in the south courts, those of Austria in the north-west transept, and those of Prussia in the south-west transept. The plan of the Paris Exhibition for 1867 ingeniously provides for a double grouping into countries and into classes. All the products of one country—say Great Britain—will be found together; and at the same time all articles of a similar character—say chemicals—will be collected together. The building which

will render this beautiful classification of products possible is to have the form of a broad ellipse, and to be surrounded by a green sward to cover the whole extent of the Champ d Mars. In the centre of the building will be laid out a garden from which will radiate avenues to the circumference; the being intersected by circular avenues running around the whole building. The radii from the centre will serve to distinguish the different countries, as each nation will have appropriated to it a number in proportion to its importance while the circular passages will be devoted to products of the same kind; so that, to examine the different productions of a country, the visitor must pass from the centre to the circumference, or vice versa; while to examine the same products as manufactured by different States—silks, for instance—he will only have to follow the circular avenue reserved for that article. He can thus pass in review the display of that kind of goods of all the different countries. As the circular passages become smaller by degrees as they approach the centre, the most valuable objects, and those which occupy the least space, will be contained in the inner circles; and the passages nearer the circumference will be reserved for the articles of greater bulk. Consequently, the works of art will occupy the first gallery around the garden; and the next will be reserved for artistic manufactures; then will come furniture, next the gallery devoted to articles of cloth in silk, wool, linen, or cotton; and this will be successive followed by those of raw materials, instruments, and modes of production, articles of food, etc. At the exterior, on each of the four sides, will be placed immense steam boilers, putting in motion the engines exhibited. The external gallery will form a promenade around the palace. Beside the radiating and elliptical passages, there will be two large naves, which will traverse the building in the direction of its axes, and will consequently intersect each other at right angles.

THE CHEMIST AND DRUGGIST AT THE DUBLIN EXHIBITION.—II.

BY HARRY NAPIER DRAPER, F.C.S.

I STOPPED short in my description of the contents of Messrs. JOHNSON and MATTHEY'S beautiful case in order to speak of Mr. Stanford's seaweed process. I mentioned the apparatus of platinum both for analytical and manufacturing purposes; now I wish to return to that case for the space of a few lines to speak of the *platinum salts*, the *magnesium*, the *rare metals*, and the salts of the rare metals, which complete the list of objects exhibited by this enterprising firm.

First, there is *platinum sponge*, used for making the little balls for the old—not obsolete, for the toy has been revived by the instrument makers within the last year or two—hydrogen lamp. Then *platinum black*—said to be employed in Germany for the production of acetic acid from alcohol and *ammonio-chloride of platinum*. All my readers are sufficiently well acquainted with *magnesium* in its familiar form of wire or "coils of sunlight;" but here we have the metal taking shapes which are not so usual. Messrs. Mather and Platt, engineers to "The Magnesium Metal Company," which works Mr. Sonstadt's patent, have produced some remarkable objects in this metal, which appear to be intended to illustrate the great facility with which it can be worked. Among these are a steam valve and an obelisk; the former weighing 27, and the latter 132 ounces. Both of these, when seen, on careful examination, to be covered with some green matter—probably "Rangoon oil"—with the object of preventing oxidation. There is also a beautiful irregular mass of the metal weighing 134 ounces, a bunch of brilliant turnings, and some miles of wire and ribbon. This "ribbon" or flattened wire, is now found to replace the round wire advantageously for burning, as by exposing a larger surface it gives more light, and is, therefore, more economical; it is besides not so readily extinguished by a current of air.

A finer collection of the rarer elements than is contained in this case has, I think, never been exhibited in public. It includes *osmium*, *iridium* (used for pen points), *palladium* (for dentists' purposes), *tellurium*, *rhodium*, *ruthenium*, and non-metallic elements, *selenium*, *silicon*, and *boron*. Next all the metals are placed side by side with their respective salts, and the whole series presents an opportunity for study not often to be met with. *Cesium* and *rubidium* etc.

rdly have been expected to appear in the metallic form, at the chlorides are shown. Curiously enough, *thallium* is represented. Nor is there, that I can see, a specimen of *vanadium* compound. Vanadium is an element which could repay the attention of scientific chemists. It exists—according to Dr. Phipson, I think—in the London clay, and every tile and broken flower-pot can be made to yield it; *indium* itself would not at this moment be more difficult to obtain. Dr. Ure says that *vanadate of ammonia* gives, with infusion of galls, “the most perfect ink that can be desired.” And as even a moderately perfect ink is a desideratum, the production of vanadium on a commercial scale might be no less a boon to the community than even the discovery of a new metal. The case of Johnson and Sons, Basinghall-street, London, although not nearly so striking as that of Johnson and Matthey contains a very good collection of objects in platinum. The crucibles and spoons shown are particularly well finished. *Cadmium* and *smith* in ingot, fused points of nitrate of silver and sulphate of zinc, are also a leading feature in the collection. By the way, has the late great advance in the price of bismuth ever been satisfactorily explained? Some very curious theories have been put forward. One is that it has been required in large quantity for fusible metal, said to be used in the production or reproduction of blocks for calico-printing; another—which was started in *Notes and Queries*—is that it has been bought up by a Transmutation Company (Limited), having an office in Leadenhall-street, for making gold. The actual solution of the problem is, I believe, that the actual sources of supply are becoming exhausted. Still, bismuth is not quite so dear as it was some months ago. It was formerly used in the manufacture of *type metal*; perhaps it might be profitable to attempt its extraction from the “worn-out” founts of such type, which, doubtless, must exist in some printing offices.

Not far from the case of Messrs. Johnson and Sons is a small one belonging to the PATENT PLUMBAGO CRUCIBLE COMPANY (37). This contains an interesting series of specimens of different varieties of *graphite*, and also manufactured black-leads. It is, however, not so much to these as to the plumbago crucibles and the models of plumbago furnaces that I wish to draw attention. The larger crucibles, the furnaces, and the “roasting-dishes” exhibited by the Company have for some inscrutable reason been placed in Kildare-street, among ploughs, churns, patent manures, cattle pie, and butter powder. So that, indeed, if it were not for the small case in the gallery of the Exhibition it would be impossible to know that this important manufacture was represented at all. Luckily, however, for the Plumbago Crucible Company, the crucibles of its manufacture are thoroughly well known. In nearly all the mints and royal arsenals at home and abroad, by nearly all English and continental engineers, brassfounders, and refiners of the precious metals, they are now employed to the exclusion of every other kind of melting-pot. The great advantages which these crucibles possess, not only over those of clay, but over those in which clay predominates, and plumbago exists only in sufficient quantity to give colour to the fraud of calling them “black-lead crucibles,” may be summed up in a very few words. They never crack, they become very rapidly heated, when hot they may be even dipped into water without danger of fracture, and they last a very long time. For metals that are fused with difficulty, they may be used as many as forty times, and for metals of a less intractable character as many as ninety or more distinct fusions have been made in one crucible. They are, in fact, said to literally wear out.

MESSRS. I. REEKITT AND SONS (32) also illustrate the manufacture of graphite, though, in their case, not crucibles, but the no less useful housemaids’ black-lead is the product shown. The plumbago is pressed into the required form by hydraulic pressure, without, it is said, the intervention of any adhesive substance. In this way blocks, apparently as hard and solid as a lump of Borrowdale plumbago, are produced from the waste of the pencil manufacture and from the graphites of Ceylon and other countries. To effect the same object without the use of hydraulic pressure, *fullers earth* is, I believe, sometimes mixed with the plumbago. That some substance capable of giving coherence is commonly employed there is little doubt, and I remember to have seen in a Cumberland factory glistening cubes of black-lead, made by the pressure of a screw, which did not appear to exercise

much greater force than that of an ordinary copying-press. Some of the blocks of black-lead shown by the Messrs. Reekitt have the form of *books*, and are really ornamental. No specimens of graphite disintegrated by the process of Brodie are shown in the Exhibition. I am not aware whether this process has, indeed, been practically applied, although many obvious advantages are gained by the increase of purity thus given to plumbago. Dr. Hofmann has pointed out that crucibles made of Brodie’s graphite, and merely protected by a superficial siliceous glaze, would, “beyond doubt, endure intenser ignition than any material we yet possess.”

I must not omit to give passing notice to the *carbon plates for galvanic batteries*, and *carbon points for the electric light*, shown by Mr. J. Young, of Dalkeith (290). These are prepared by moulding coal dust, moistened, I think, with syrup into the required shape, and then carbonizing the blocks or plates thus produced in iron boxes. Plates thus obtained are however, more or less porous, and to remedy this the following ingenious plan is adopted. The plates are rolled in coal-tar, and again subjected to a red heat, which, by converting the pitchy matter into carbon, effectually produces the required density. Mr. Young’s carbon plates are much cheaper and more easily obtained than plates from gas-retort graphite, while they make better battery elements, and are more easily fitted with the necessary connections.

No branch of manufacture connected with chemistry is better represented in the Exhibition than the *soap and candle* industry. As this manufacture has some collateral points of interest for the chemist and druggist, I will just pass in rapid review the collections of the different exhibitors, dwelling only on any matter which appears to merit attention. Messrs. J. C. and J. FIELD, Lambeth, have a magnificent display of *paraffin candles and tapers*, among which the fluted candles are particularly beautiful. There is a somewhat general impression that the colours used for tinting paraffin candles are derived from *aniline*. This is not, however the case, and there is not, as far as I have had the opportunity of observing, any example of candles so coloured in the Exhibition. As far as the specimens exhibited by the Messrs. Field are concerned, the colours used appear to be—for green *acetate of copper*; for yellow, *gamboge* or *tumeric*; and for pink, *carmine*. There is a very brilliant blue also, but whether it is artificial ultramarine or cobalt blue I cannot say. It is certainly not an aniline colour.

The coloured derivatives of the aniline bases can, however, readily be united with fatty matters and with paraffin, in the manner first described by myself in a note laid before the Dublin Chemical Club, and more recently by a German chemist, whose name—as I write at a distance from a copy of the *Chemical News*, in which the paragraph appeared—I cannot now give. The method is this; or rather let me begin with the principle upon which the method is based. The aniline colour bases, of which rosaniline is the best known example, are readily dissolved by the fatty acids, and form with them coloured products—evidently definite salts—which are of great brilliancy, and are readily miscible with paraffin. Oleic and stearic acids answer the purpose very well. A very minute quantity of the fatty salt is sufficient to tinge a great deal of paraffin. I find, however, that nearly all commercial paraffin contains some low oxide of sulphur—probably sulphurous acid—which bleaches the aniline colours, and which must be removed before a successful result can be obtained. This is easily effected by heating the paraffin with a little nitric acid, and then washing it with water.

There appears, however, to be an insuperable objection to the use of these beautiful dyes for colouring candles. They are readily bleached by light, and as candles of this kind are necessarily exposed in glass cases and shop windows for sale the objection is fatal. Messrs. Field also exhibit soaps of apparently excellent quality.

JOHN BANINGTON & SONS, Dublin, (11) exhibit *soaps and soap material*—resins, silicate of soda, palm oil, etc.

WILLIAM TAYLOR & CO., Leith, (34) have a fine show of *stearic acid* and *paraffin candles*, the latter both plain and coloured. In this case, and in that of Mr. JOHN G. RATHBONE, Dublin (71), are some very beautiful *ornamented candles*. The ornaments are coloured and gilt designs, which have evidently been transferred from a lithographed or engraved copy after the manner of porcelain decoration. Some of these are a little too gaudy, but those of more sub-

duced colour are often very tasteful. Mr. RATHBORNE, who is the only wax-bleacher in Dublin, shows this substance both bleached and unbleached—the former of guaranteed purity—and also *spermaeti*. W. GOSSAGE & SONS (46), Warrington, have a good collection of scented soaps.

PRICE'S PATENT CANDLE COMPANY (31) exhibits certainly the finest collection of candle material in the British Department. The staple raw product worked by this firm is, as is well known, *palm oil*; there is nothing that can be done with palm oil that this company does not do, nothing that can be got out of it which it does not get. In the really beautiful palm leaf-surmounted case, which is one of the chief ornaments of the nave of the Exhibition building, the application of *Aroira elais* are almost exhaustively illustrated. If interesting in no other respect, this collection would be an admirable example of how much can be done with a single substance of apparently unpromising nature. When Price's Patent Candle Company was, owing to the introduction of American petroleum, obliged to abandon the working of Burmese naphtha, from which it, by a single process, produced a valuable detergent, a burning oil, a lubricant, and a candle material, its energies would appear to have been more than ever concentrated upon palm oil. The case contains the wood of the oil-bearing palm—the wood in *shavings* of surprising thinness and which it was at one time found profitable to use instead of paper for the cases of night-lights—and *palm oil*. The process by which the palm oil is taken to pieces, broken up into palm-stearic and palm-oleic acids and glycerin, by the aid of steam at a very high temperature, is doubtless so well known to my readers that I need not occupy space by describing it. Beautiful specimens of both these fat-acids and of glycerin are shown. I may observe that I have found the *palm oleic acid* very well suited to the preparation of oleates of the alkaloids to be used for combining with cod-liver oil. Price's glycerin still retains its *prestige* in spite of the introduction of many varieties from foreign sources at much lower prices. Its perfect purity and unvarying density are of themselves qualities quite sufficient to account for this. It has recently been stated that glycerin is used by makers of liqueurs and wines to impart "body"—that indefinable property of alcoholic compounds which is not sweetness nor yet thickness, but which characterizes the best vintages, and which is said by Mulder to be due to the presence of *ananthin*. It may be worth while to say that glycerin, even were its present high price not an insuperable barrier to such a use, cannot be so employed; it communicates a peculiar and most distinctive "after-taste," resembling somewhat that of the sweet hyposulphite of silver, and quite unlike that of sugar.

In this case are also specimens of the fat acids of *cocoa-nut oil*, liquid and solid. The former of these well deserves to be thoroughly worked out. I have good reason to think that one of its constituents is the *pelargonic acid*, now known to be identical with *ananthic acid*. I have, at least, obtained from it an ether which is quite undistinguishable in odour from the *cognac oil*, which was so largely imported from Germany, before the reduction of the duty on foreign spirits, for the manufacture of "British brandy."

From THE PATENT WAX SOAP FACTORY (293), London, are sent specimens of very nicely-made soaps, of good quality. These are said to be made, under "Kottula's Patent," from *Japan Wax*. They appear to be good *tallow* soaps; and if wax has much more to do with their constitution than honey has with that of "honey soap," its proportion must be infinitesimal. I have not, however, been able to see the specification of "Kottula's patent," and cannot, therefore, speak more precisely. Even Japan wax, at its present price, would be a somewhat expensive source of material for soap-making.

Paraffin is amply represented in the fine case of Mr. J. YOUNG, Bathgate, N. B. Looking carefully over the contents of this case, we have the whole of this important industry before us. Here is a mass of—what shall I say?—*Boghead Coal*, *Boghead Shale*, *Torbanehill Mineral*, or *Torbanite*; for no one seems to be decided by which of these names this vexatious mineral shall be called. Then the *crude oil*, the product of its destructive distillation; next *burning oil*, the well-known "*paraffin oil*," which has been the subject of so much litigation, and which has held its ground even in the face of the vast supplies of American petroleum with which it has had to compete in price. Next comes *naphtha*, the

lighter fluid, which, retained in burning oils of inferior quality, becomes, when mixed with atmospheric air, more dangerous than gunpowder. This meets with a ready sale as a cheap substitute for turpentine. I may just mention here that the adulteration of either French or American turpentine with any of the "turpentine substitutes" can be most positively detected by the skilful use of the polarizing saccharometer, an improved form of which instrument, as shown by Messrs. Spencer and Son, of Dublin, I hope to describe in a future notice. *Lubricating oil*, now much used in conjunction with the fatty oils for machinery, is also shown. The great attraction of Mr. Young's case is, however, the fine display of *paraffin* itself. To say nothing of the magnificent block of this beautiful substance, there are several busts and other figures which show off to the best advantage the peculiar translucency of the material. To do more than this was doubtless not intended; but these figures have, since the Exhibition opened, illustrated another remarkable property of paraffin. Paraffin appears not to have, like the solid fats, and like wax, a point between actual solidity and absolute liquefaction; it never becomes really plastic nor can it, therefore, be moulded between the fingers. And so, when the warm sun exerted its force on the contents of Mr. Young's glass case, the figures of paraffin suddenly drooped; their heads fell upon their shoulders; and the Graces and Sir Walter Scott appeared alike to take quite a melancholy view of the probable success of the Exhibition. Had the figures been made of stearine or wax, a little careful manipulation would have set all to rights. As it was, they were irretrievably spoiled.

The magnificent collection of *colours* exhibited by MESSRS. G. ROWNER and Co. (474), although perhaps more interesting to an artist than a chemist, is yet so very marked an example of the close connexion of chemistry with art, and so admirable in itself, that I cannot pass it over in silence. The collection includes not only specimens of *all artist's colours* in the manufactured form, as they are sold ready for use, but side by side with each tint is placed a specimen of the raw material from which it is obtained. Too much praise cannot be given to the arrangement of the entire collection, and a very little scientific supervision would make the case a most valuable acquisition to an educational museum. The different colours are divided into two classes,—one containing those from inorganic, the other those from organic sources. A few points of interest attract the chemical eye in looking through these rows of brilliant colours. We have, for example, *cadmium-yellow* in three different shades. These are well known to consist of sulphide of cadmium, that is, as far as the bright yellow variety is concerned; but I do not remember to have met with any account of the process adopted in preparing the two others which are of a more orange colour. Then there is *sesquioxide of chromium* in crystalline lumps apparently obtained by ignition of bichromate of potassium. In comparing carefully the specimen of genuine *ultramarine* with the artificial product which is now so largely manufactured from soda, sulphur, and silica, it is curious to observe how wonderfully chemistry has here imitated nature; the uneducated eye cannot in fact detect in the two colours the slightest difference of brilliancy. Among the blues is shown a specimen of one which has been called *Caruleum*, and which is of great transparency and depth. With *carmine* and *cadmium-yellow* it completes a triad of permanent almost transparent colours, which have peculiar value to the artist. It is, I think, made from *tin*, if an analysis of published some time since in the *Chemical News*, is to be depended upon. Among *brown* colours is one from *manganese*, "*manganese brown*," as it is called.

I have just said that specimens of the raw material, from which the colours are obtained, are in many cases made to accompany them. Thus we have *cadmium*, *lead*, *zinc*, and *cobalt*, each giving a group of colours. When we come, however, to the *Prussian blues*, we are somewhat startled to find that specimens of ferrocyanide of potassium and sulphate of soda have been placed above them as examples of their origin. With this exception the classification is, in my observation, uniformly good.

In the series of colours from organic sources are specimens of *Cappah brown*, "*a native earth*;" *Indian yellow*, "*from the camel*" (this is, I think, also known as *purree*); *burnt vine stalks*, giving a "*purple black*;" a fine series of *laes* from different sources; and *genuine mummy*, used as a bro-

igment. It is remarkable that certain yellows which appear to be lakes are called in technical language "pinks;" thus we have *broken pink* and *Dutch pink*, both from Persian berries. The more transparent of the prepared colours in this case are painted upon palettes of mother-of-pearl, which very much enhance their effect.

MESSRS. J. HARE AND Co, Bristol (19), have a good collection of *painter's colours*—blues, greens, yellows, and reds.

The manufacture of *starch* is well illustrated by J. and J. COLMAN, London (39), BROWN AND POLSON, Paisley (46), W. POLSON AND Co., Paisley (58), and CHARLES COONEY AND Co., Dublin (16). The only novelty connected with starch is one of considerable interest, which is shown by Messrs. Colman. It was, I believe, at the suggestion of the Society of Arts that this firm undertook the manufacture of *coloured starches*, with which, not only should the object of stiffening a fabric be effected, but which should at the same time give a pleasing tint. They are especially applicable to muslins and other light materials, which may thus, as boiling water at once removes the colour, be tinted of any desired hue at pleasure. The colours used are all derived from aniline, and are very delicate and transparent. The aniline colours appear, indeed, to form with starch something more than mere mixtures; the compound appears to partake rather of the character of a true "lake." The green tinted starch and a fawn one, apparently made with a chrysaniline salt are particularly pretty.

In my next notice I hope to describe the more purely chemical and pharmaceutical objects of interest in the Exhibition.

EXTRACTS FROM THE MINUTES OF EVIDENCE

TAKEN BEFORE THE SELECT COMMITTEE ON CHEMISTS
AND DRUGGISTS' BILLS.

(Continued from page 108.)

DR. WILSON'S SCHEME OF LEGISLATION.

LORD ELCHO: Should you think, looking at all the circumstances of the case, that it would be on the whole a satisfactory solution of the question to legislate on the *caveat emptor* principle; I mean that there should be examination and registration, and that the public go to the registered shop or the unregistered shop at their peril?—Dr. Wilson: My own notion would be (having heard a good deal of what has gone on), that, in regard to the admission of chemists, not hitherto registered, into the Society, I would not admit them quite so easily as proposed in clauses 4 and 5 of the Bill No. 1. There should be more assurance of the "outsiders" being competent for the business of compounding drugs, and so on. Once approved as to a sufficient degree of fitness, I would advise that they should all be registered as "pharmaceutical chemists." I would, moreover, suggest, that the designation over the shop of all such approved persons should be "Registered Pharmaceutical Chemist;" and more than that, I would recommend that it should be compulsory on all other chemists and druggists keeping open shop to designate themselves as "Chemists and Druggists, unregistered." I think the public should be made aware of the difference. I would then assent to the *caveat emptor* principle, and should thus hope to impress on the public a little more regard for themselves, and a little more respect for medicine and the persons employed in it.

If you had two degrees, a major and a minor examination, perhaps the best distinction would be that the major degree should be indicated by "Pharmaceutical Chemists, registered," the minor degree by "Chemists and Druggists, registered," and those who deal in drugs should have "Druggist" only?—The term "Pharmaceutical Chemist," in its conventional sense, as employed in this Bill, is not recognised by the general public. It is a Parliamentary phrase of thirteen years' standing, but it means nothing more than a chemist or druggist who has to do with pharmacy. It is an arbitrary term; and, when chemists are once registered, I would allow them to be called "Pharmaceutical Chemists," just because they are pharmaceutical chemists.

Sir John Shelley: In the evidence you have given, do you agree with Dr. Quain that restrictions should only be placed on the sale of the dangerous drugs?—The question is one of so much importance that I would not answer it offhand. A

man was poisoned the other day by two ounces of Epsom salts. There was an inquest; and in another case from an ounce of nitre. In November of last year, a case was reported in which very severe symptoms were induced by an ounce of tincture of arnica, kept at hand as an embrocation for bruises, and swallowed by mistake. With regard to the grocer, of whom we have heard so much, I should deter him from meddling with physic at all. I think that there would be a great gain to the public, of security and convenience, directly it was known there were registered depôts in parts of the kingdom. If the village general dealer were allowed to sell Epsom salts, or senna, or rhubarb, I think there should be a precaution of some kind. He would get his drugs at the trade price; he would get them at the registered chemist of the country town, and I think there might be some little check, by inquiry and carefulness in the entries of such sales. The Council of the Pharmaceutical Society might exercise some right of supervision here. Precautions should, as far as possible, be taken, and I think there might be a sort of *index expurgatorius* of certain things that should never come into his possession. It would not only be the grocer or the grocer's boy, but the maidservant and the cook. There is no limit to the danger. I think the public ought to take some care of themselves. Why should they not have, in an out-of-the-way place, a medicine chest? Why should not the country gentleman or clergyman have common drugs in moderate store, with Squire's "Companion to the Pharmacopœia," or John Savory's "Compendium of Domestic Medicine," for regulation of weight and measure?

Mr. Roebuck: He might kill himself?—He would have a much less chance of killing himself than by going to the grocer's.

Sir John Shelley: Do you go as far as Dr. Quain? He would throw every difficulty he could in the way of a person, in an out-of-the-way place, being able to procure for himself what is absolutely necessary; I mean poison, for killing rats, and so on: would you go as far as he would, and throw every difficulty in the way of that being obtained easily?—I would give no facilities. Rat poison is human poison. Battle's vermin powder and Simpson's vermin powder are as deadly poisons as can be taken. Only last month a young woman took two packets of Simpson's vermin powder and one of Battle's. Simpson's powder is arsenic; Battle's is strychnia. The woman died in convulsions. No strychnia was found in her body after death; it had not been fairly swallowed. Arsenic was everywhere in the blood and structure.

Then, from the fact of there being some ignorant persons, farmers are to submit to loss of property?—I do not admit loss of property; they would go to the market town, and the landlords, if they craved for rat poison, would soon make their way to the place where they could get it. With railways, spare horses, grooms, and pony chaises, it would not be difficult.

COMIC CHEMICALS.

(From *Fun*.)

In the July number of the *Chemical Society's Journal* there is an essay "On the Action of Nascent Hydrogen on Azodinaphthyldiamine"—a subject which is hardly calculated to rivet the attention of non-professional readers, especially as it is dealt with in prose. Treated metrically, perhaps, it might appeal to a wider circle; and in this conviction we have thrown the treatise into melodious verse, confining ourselves as much as possible to words of less than ten syllables. We dedicate our lyric to Mr. W. H. Perkin, the author of the original essay in the *C. S.'s J.*; and we call it—from circumstances under which it was composed—

AN ALCOHOLIC SOLUTION.

AIR—"Guy Fawkes."

The many metamorphoses which bodies undergo, sirs,
When subjected to hydrogen, all chemists ought to know, sirs;
But only one who occupies the proud position I am in
Can calculate its action on Azodinaphthyldiamine!

Bow, wow, wow, &c.

That hydrogen, in such a case, is certain to decolorize,
Can hardly be a question for the man who has a skull or eyes.
Solutions alcoholic must be saturated clamantly
In nipperkins or pipperrins (You know the Perkin family?),
Bow, wow, wow, &c.

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You turn it to a palish buff, supposing you begin, sirs,
By carefully digesting it with granulated tin, sirs;
Then borrow some decanters, just to bottle the solution up;
But don't attempt to drink it, or you'll knock your constitution up.
Bow, wow, wow, &c.

With sulphuretted hydrogen the residuo is treated;
For my part, it's a sort of treat I shouldn't want repeated.
Then filter pretty quickly—if you filter *slow* 'twill militate
Against the operation it may otherwise facilitate.
Bow, wow, wow, &c.

The residuo looks dirty, and of course you'll say, "I'm sure if I'd
A little boiling water I should like to get it purified."
Add hydrochloric acid—it will be of use in hurrying
The crystallizing process, and will save a deal of worrying.
Bow, wow, wow, &c.

But no! If we were to go on at this rate, the next number of *FUN* would have to appear in three large volumes; and perhaps the editor wouldn't like to be thought eccentric. However, if any respectable chemist and druggist is dying to learn what the action of nascent hydrogen on Azodinaphthyl-diamine may be, let him send a stamped envelope and a dozen boxes of his best ipecacuanha lozenges to 80, Fleet-street, and the envelope shall be returned without loss of time.



A Dictionary of Chemistry, etc. By HENRY WATTS, B.A., F.C.S. Part xxix. Osmium—Palm Sugar. Longmans. 2s. 6d.

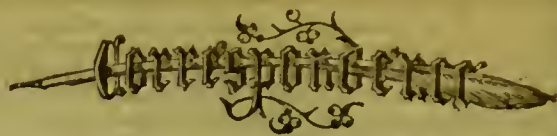
THIS part contains several important articles. The metals Osmium and Palladium, with their compounds, are described with that fulness of detail which is so striking a characteristic of the work. The article on Oxalic Acid and Oxalates runs through twenty pages of small type, and gives the chemical history of more than a hundred compounds. Oxalic Ethers, Oxamic Acid, Oxamic Ethers, Oxamide, Oxybenzamic Acid, Oxybenzoic Acid, and Palmitic Acid are the subjects of lengthy notices. The article on Oxygen is very interesting; it includes a full account of the experiments of Schönbein, Williamson, Baumert, Andrews, Tait, and others on Ozone or active oxygen, and a general description of the Oxides and Hydrates. The numerous organic compounds whose names begin with Oxy- are disposed of in this part.

MR. JOHN POUNCEY, of Dorechester, the inventor of photographic-carbon printing, who has already received the medals of the French and Scottish Photographic Societies, has lately been awarded the medal at the International Photographic Exhibition at Berlin for his photographs in printers' ink.

NEW FRENCH PHARMACOPOEIA.—The present French Codex was issued in 1837, and is therefore considerably behind the science of to-day. A new edition has been prepared by the Professors of the Faculty and of the School of Pharmacy, and the manuscript is now in the hands of M. J. B. Baillière, the eminent publisher, who has paid £1000 for the privilege of bringing it out.

NEW METHOD OF PREPARING OXYGEN.—M. Carlevaris, of Genoa, has proposed a new method of preparing oxygen gas on the large scale. The process consists in heating to low redness the ordinary black oxide of manganese with siliceous sand. Silicate of manganese is formed and oxygen liberated. It is said that the gas may be produced in this manner at Genoa at a cost of 40 centimes per cubic metre.

INDIA-RUBBER.—There are now in America and Europe more than a hundred and fifty manufactories of India-rubber articles, employing from four to five hundred operatives each, and consuming more than ten millions of pounds of gum per annum. The business, too, is considered to be still in its infancy. Certainly it is increasing. Nevertheless there is no possibility of the demand exceeding the supply. The belt of land round the globe, five hundred miles north and five hundred miles south of the equator, abounds in trees producing the gum, and they can be tapped, it is said, for twenty successive seasons. Forty-three thousand of these trees were counted in a tract of country thirty miles long and eight wide. Each tree yields an average of three table-spoonfuls of sap daily, but the trees are so close together, that one man can gather the sap of eighty in a day.—*North American Review*.



METALLIC CAPSULES.

TO THE EDITOR OF THE CHEMIST AND DRUGGIST.

SIR,—My name having been rather prominently mixed up with "capsule panic," you will perhaps allow me to state briefly what she have had in the matter.

Metallic capsules have been made on the continent for nearly 50 years; they are sold quite openly by highly respectable houses, form at present the object of no patent. I and many other manufacturers have been using these capsules for years, equally openly in country, without any interference; but about three months ago Betts filed a bill in Chancery against me for alleged infringements of patent. I was perfectly astounded, as Mr. Betts had known for a long time that I used those capsules, and in fact had offered to supply in competition with the French manufacturers. Having, however, a strong aversion to litigation, I left off immediately using French capsules, began using Betts's. You may therefore judge my surprise when I found that lately Mr. Betts had been filing a number of other bills against retailers (principally chemists), who had been selling my articles under some of the old capsules on. This proceeding, if legally correct, certainly most unwarrantable in a commercial point of view, as having already sued the principal, he could not expect to recover a second time the damage done (if any) from innocent retailers.

I took counsel's opinion on the subject, and found I was not liable for any retail vendors, although they might be sued for selling articles; but wishing to protect my customers from such annoyance, having heard there were above one hundred of those bills filed, I offered Mr. Betts £1,000 to compromise for all present and future actions. This was at first accepted, but the deed sent me for approval had been framed in such a way that it left my customers quite unprotected, and Mr. B. refusing to adhere to the necessary alterations, the matter ended there. I might then have adopted a pure tin capsule, which being unprotected by any patent, could not lead to litigation, but observing the general disinclination in the trade to sell articles bearing capsules of any description, I have replaced the capsule by a new guarantee label, which I have sent to all my customers, and shall be happy to send to any other person having my goods in stock, in lieu of the metallic capsules, which I strongly recommend them to remove and destroy immediately.

I remain, Sir, yours obediently,

96, STRAND,
August 5th, 1865.

L. RIMME



IN Chemicals the business done during the month has been rather more extensive than of late, but holders have accepted rather lower prices. Several parcels of Tartaric Acid have changed hands at the low rates of 1s. 4½d. cash, but general quotations are 1s. 4¾d. to 1s. 5d., the latter price being asked for the best English. Only small sales have been made of Oxalic at 9½d. to 9¾d. A good business has been done of Chlorate of Potass at 12d. to 12½d. Sal Acetos is quiet at 11½d. Citric continues at 1s. 9d. to 1s. 9½d., according to quality. Bichromate remains dull at 6d. nett. Prussiate of Potass continues nominal at 11½d. to 11¾d. Iodine is quiet and lower; last sales made at 5¾d. to 6d. Quinine is low and small lots French sell at 4s. 11d. to 5s., and English 5s. An extensive business has been done in Soda Crystals, prices are 10s. to 20s. dearer; last sales made at 11s., ex 100 and small lots £6. Ash is more in request at 2½d. to 2¾d. degree. Cream Tartar is dull, at 100s. for the best. Small sales in Sal Ammoniac have been made at 36s. and 37s. to 38s., according to quality. A good business has been done in Sulphate of Copper at 26s. 6d. to 27s. 6d., according to make. Bleaching Powder has declined to 10s., and dull sale. Flour of Brimstone is quiet at 12s. 3d. Only small sales made in Sulphate of Ammonia at 13s. 6d. Muriate of Potass is dull at 7s. 3d. to 7s. 6d. Refined Saltpetre is steady at 28s. 6d. to 29s. 6d., according to quality. A large business was done in Turpentine, prices advancing from 46s. up to 48s. 6d., but is again quiet, sellers now at 46s. for French Petroleum is better, and a good business at 2s. 7d. A cargo of Wallachian Crude is reported at £17. Linseed Oil is dull and the price on the spot is now 32s., Hull 31s. 9d., and

ward 32s. to 32s. 6d. Rape is dearer and more in demand. Rosin is dull and lower. No change in ashes. Coconut Oil is quiet, that from Ceylon 42s. 6d. to 43s.; Cochin, 44s. 6d. to 45s.; and Sydney, good and fine, 40s. to 42s. 6d. per cwt.

The sales of Drugs have been chiefly of limited parcels, without much change in prices. A new arrival of 150 serons of Ipecacuanha was partly offered, and 50 were sold at 7s. 6d. to 8s. 2d., being a decline of 2s. 6d. per lb. 250 bales of Finnevelly Senna of the recent import sold at 4½d. to 6½d., a small lot of very good at 9½d. Shellac further declined 10s. to 20s., but at the late sales more spirit was manifest, and prices were rather firmer. Gambier and Cutch both remain quiet. Safflower is steadier. Camphor continues quiet. Rather more doing in Indigo at steady prices. Castor Oil sells steadily at former quotations. Small sales of Oil of Aniseed made at 7s. 6d. Rhubarb is quiet without change. Croton Seeds are much dearer. There is no change in Gums, except Copal, which is a trifle better. About 30 cases of Citronelle Oil sold at 3½d. to 4d., being rather cheaper. Sarsaparilla is without change. Bees Wax is rather lower, owing to good supplies from Jamaica, which has chiefly sold at £9 to £9 10s. Aloes are unaltered, some very ordinary Bombay sold at low prices. A few lots good and fine Turkey Opium sold at 12s. 6d. to 13s. 6d. Turmeric is quiet at former terms. Cardamoms are held for late rates. In Dye-woods business limited to mere actual wants at about former quotations.

PRICE CURRENT.

These quotations are the latest for ACTUAL SALES in Mining Lane. It will be necessary for our retail subscribers to bear in mind that they cannot, as a rule, purchase at the prices quoted, inasmuch as these are the CASH PRICES IN BULK. They will, however, be able to form a tolerably correct idea of what they ought to pay.

	1865. s. d.	1865. s. d.	1864. s. d.	1864. s. d.
ARGOL, Cape, per cwt.	80 0	95 0	87 6	100 0
French	58 0	83 0	60 0	85 0
Oporto, red	45 0	47 0	46 0	48 0
Sicily	72 6	75 0	74 0	77 0
Naples, white	68 0	76 0	65 0	80 0
Florence, white	85 0	90 0	87 6	95 0
red	80 0	85 0	80 0	85 0
Bologna, white	90 0	95 0	90 0	97 6
ARROWROOT (duty 4½ per cwt.)				
Bermuda, per lb.	1 2	1 6	1 4	1 8
St. Vincent	0 2½	0 6½	0 4½	0 7½
Jamaica	0 3½	0 5½	0 3½	0 7
Other West India	0 1	0 3	0 3½	0 4½
Brazil	0 2½	0 3	0 2½	0 3
East India	0 2½	0 3½	0 3½	0 6
Natal	0 4	0 8½	0 5½	0 6½
Sierra Leone	0 3½	0 4½	0 4½	0 5½
ASHES, per cwt.				
Pot, Canada, 1st sort	29 6	0 0	32 0	33 0
Pearl, ditto, 1st sort	30 6	31 0	34 0	35 0
BRIMSTONE,				
rough, per ton	140 0	0 0	145 0	150 0
roll	195 0	205 0	185 0	190 0
flour	245 0	250 0	240 0	250 0
CHEMICALS,				
Acid—Acetic, per lb.	0 4	0 0	0 4	0 0
Citric	1 9	1 9½	1 7	1 7½
Nitric	0 5	0 5½	0 5	0 5½
Oxalic	0 9½	0 9½	0 10	1 0
Sulphuric	0 0½	0 0	0 0½	0 0
Tartaric crystal	1 4½	1 5	1 6½	1 6½
powdered	1 6½	0 0	1 7	0 0
Alum	140 0	145 0	120 0	122 6
powder	160 0	0 0	140 0	145 0
Anamonia, Carbonate, per lb.	0 5	0 5½	0 5½	0 6
Sulphate	260 0	280 0	260 0	290 0
Antimony, ore	160 0	180 0	160 0	180 0
crude	21 0	15 0	26 0	0 0
regulus	34 0	0 0	36 0	37 0
French star	34 0	0 0	36 0	37 0
Arsenic, lump	15 0	0 0	15 0	15 6
powder	6 0	6 3	7 0	7 3
Bleaching powder	10 0	0 0	13 0	13 6
Borax, East India refined	0 0	0 0	0 0	0 0
British	54 0	0 0	56 0	0 0
Calomel	2 8	0 0	2 10	0 0
Camphor, refined	1 5½	0 0	1 3	1 4
Copra, green	50 0	52 6	50 0	52 6
Corrosive Sublimate, per lb.	2 3	0 0	2 4	0 0
Green Emerald	0 0	0 0	0 0	0 0
Brunswick, per cwt.	0 0	0 0	0 0	0 0

	1865. s. d.	1865. s. d.	1864. s. d.	1864. s. d.
CHEMICALS.				
Iodine, dry	0 6	0 6½	0 6	0 0
Magnesia, Carbon	42 6	45 0	42 6	45 0
Calcined	1 6	1 8	1 6	1 8
Minium, red	21 6	24 6	21 0	21 6
orange	32 6	33 0	32 6	33 0
Potash, Bichromate	0 6	0 0	0 7	0 0
Chlorate	1 0½	1 1	1 1	0 0
Hydriodate	0 5½	0 6½	0 6	0 6½
Prussiate	0 11½	0 0	0 11½	0 11½
red	1 9	1 9½	1 10	1 11
Precipitate, red	2 9	0 0	2 11	0 0
white	2 9	0 0	2 11	0 0
Prussian Blue	1 0	1 10	1 0	1 10
Rose Pink	29 0	0 0	29 0	0 0
Sal-Acetos	0 11½	0 0	1 0	0 0
Sal-Ammoniac				
British	35 6	37 6	35 0	37 6
Salts, Epsom	8 6	0 0	8 0	8 6
Glauber	5 0	5 6	5 0	5 6
Soda, Ash	0 2½	0 2½	0 2	0 2½
Bicarbonate	12 3	12 6	11 9	12 0
Crystals	105 0	0 0	95 0	97 6
Sugar Lead, white	37 0	37 6	38 0	39 0
brown	26 0	26 6	28 0	29 0
Sulphate Quinine				
British, in bottle	5 4	0 0	6 3	6 6
Foreign	4 11	5 0	5 10	6 0
Sulphate Zinc	14 6	15 0	14 6	15 0
Verdigris	0 11	1 0	0 11	1 0
Vermilion, English	2 11	3 0	2 8	3 0
China	2 6	0 0	3 0	3 2
Vitriol, blue or Rom.	27 0	0 0	31 0	32 0
COCHINEAL, per lb.				
Honduras, black	3 2	5 0	3 3	4 8
silver	3 1	3 5	2 6	3 6
Mexican, black	3 0	3 7	3 2	3 4
silver	3 0	3 2	3 0	3 2
Lima	3 0	3 2	0 0	0 0
Teneriffe, black	3 4	3 11	3 4	3 10
silver	3 2	3 8	3 1	3 8
DRUGS,				
Aloes, Hepatic	100 0	170 0	100 0	170 0
Socotrine	160 0	290 0	170 0	300 0
Cape, good	41 0	43 0	45 0	47 0
inferior	24 0	44 0	30 0	44 0
Barbadoes	40 0	300 0	50 0	320 0
Ambergris, grey	21 0	25 0	15 0	19 0
Angelic Root	20 0	35 0	20 0	35 0
Aniseed, China star	160 0	165 0	120 0	120 0
German, &c.	24 6	40 0	24 0	39 0
Balsam, Canada	0 10	0 11	0 10	0 11
Capivi	1 7	2 0	1 9	1 10
Peru	4 4	4 6	4 9	4 11
Tolu	3 0	3 2	3 10	3 11
Bark, Cascarilla	24 6	34 0	25 0	36 0
Peru, crown & grey	0 9	2 0	0 10	2 3
Calisaya, flat	2 2	2 9	3 0	3 6
quill	2 0	2 6	2 9	3 3
Carthagena	0 10	1 9	1 2	2 0
Pitayo	0 10	2 2	1 7	2 4
Red	1 10	10 0	2 6	9 0
Bay Berries	0 0	0 0	0 0	0 0
Bucca Leaves	0 4	0 10	0 3	0 11
Camomile Flowers	20 0	65 0	25 0	105 0
Camphor, China	102 6	105 0	90 0	92 6
Canela alba	23 0	33 0	23 0	35 0
Cantharides	2 2	2 3	2 4	2 6
Cardamoms, Malabar, good	6 3	7 0	5 6	6 0
inferior	4 6	6 0	4 0	5 0
Madras	2 9	5 3	2 9	4 6
Ceylon	3 8	4 0	5 0	5 5
Cassia Fistula	25 0	35 0	14 0	22 0
Castor Oil, 1st pale	0 6½	0 7½	0 5½	0 7
2nd	0 5½	0 6	0 4½	0 5½
inferior and dark	0 4½	0 5	0 4½	0 4½
Bombay, in casks	0 4½	0 4½	0 4½	0 4½
Castor	1 0	20 0	1 0	20 0
China Root	0 0	0 0	17 0	24 0
Cocculus Indicus	25 0	27 0	20 0	24 0
Cod Liver Oil	3 6	8 0	6 0	12 0
Colocynth, apple	0 7	1 0	0 6½	0 11
Colombo Root	140 0	180 0	90 0	120 0
Cream Tartar				
French	07 6	100 0	110 0	0 0
Venetian	100 0	102 6	110 0	112 6
grey	90 0	92 6	95 0	100 0
brown	85 0	90 0	85 0	92 6
Croton Seed	400 0	500 0	70 0	80 0
Cubeb	82 6	85 0	97 6	100 0
Cumin Seed	19 0	23 0	27 0	34 0
Dragon's blood reed	200 0	320 0	200 0	300 0
lump	75 0	260 0	90 0	260 0
Galangal Root	15 0	17 0	18 0	20 0
Gentian Root	21 0	22 0	0 0	0 0
Guinea Grains	60 0	65 0	49 0	53 0
Honey, Narbonne	40 0	80 0	40 0	80 0
Cuba	25 0	33 0	26 0	38 0
Jamaica	28 0	53 0	27 0	63 0
Ipecacuanha	7 5	8 0	7 0	7 3
Isinglass, Brazil	2 0	4 11	1 10	4 6
East India	1 0	4 8	0 6	4 3
West India	3 0	3 4	3 2	3 4
Russian	9 6	10 9	9 6	11 9
Jalap	1 0	5 3	0 9	5 4

DRUGS—continued.		1865.	1865.	1864.	1864.	OILS—continued.		1865.	1865.	1864.	1864.
		s. d.	s. d.	s. d.	s. d.			s. d.	s. d.	s. d.	s. d.
Juniper Berries . . . per cwt.	7 0	9 0	6 0	5 0		Madras per cwt.	39 0	41 0	35 0	35 0	35 0
German and French . .	9 0	10 0	8 0	10 0		Palu, fine	33 0	37 3	35 0	35 0	35 0
Italian	0 0	0 0	0 0	0 0		Linseed	32 0	32 3	36 6	36 6	36 6
Lemon Juice per deg.	0 0	0 0	0 0	0 0		Rapeseed, English, pale . .	46 6	47 0	45 0	45 0	45 0
Liquorice per cwt.	75 0	80 0	80 0	88 0		brown	42 6	44 0	42 6	42 6	42 6
Spanish	55 0	75 0	55 0	70 0		foreign pale	46 0	47 6	46 6	46 6	46 6
Italian	2 0	2 0	2 7	2 9		brown	43 6	44 0	42 6	42 6	42 6
Manna, flaky	1 2	1 4	1 4	0 0		Lard	77 0	0 0	46 6	46 6	46 6
small	22 0	32 0	13 0	34 0		Tallow	83 0	0 0	41 0	41 0	41 0
Musk per oz.	11 0	15 0	10 0	12 6		Rock Crude per ton	£15 0	£20 0	£15 10	£15 10	£15 10
Nux Vomica	11 0	14 0	17 0	18 6		Oils, Essential—					
Opium, Turkey	0 0	0 0	10 0	16 0		Almond, essential . . . per lb.	0 0	0 0	19 0	19 0	19 0
Egyptian	29 0	31 0	26 0	30 0		expressed	0 10	0 0	0 0	0 0	0 0
Oris Root per cwt.	3 0	0 0	3 0	8 6		Aniseed	7 6	0 0	6 4	6 4	6 4
Pink Root per lb.	65 0	70 0	85 0	105 0		Bay	0 0	0 0	110 0	110 0	110 0
Quassia (bitter wood) per ton	0 5	1 6	1 0	1 8		Bergamot per lb.	10 0	15 0	7 0	7 0	7 0
Rhatany Root per lb.	2 9	9 6	2 9	6 0		Cajuputa, (in bond) . . . per oz.	0 2	0 2	0 2	0 2	0 2
Rhubarb, China, round . .	4 0	9 0	3 0	6 3		Caraway per lb.	2 0	6 6	4 3	4 3	4 3
flat	10 0	0 0	0 0	0 0		Cassia	7 10	8 0	9 0	9 0	9 0
Dutch, trimmed . .	10 0	12 0	12 0	18 0		Cinnamon (in bond) . . per oz.	1 2	2 3	0 2	0 2	0 2
Russian	29 0	23 0	28 0	33 0		Cinnamon Leaf	0 5	0 8	0 2	0 2	0 2
Saffron, Spanish	120 0	130 0	140 0	145 0		Citronel	0 3	0 4	0 5	0 5	0 5
Salop per cwt.	1 0	1 4	1 0	1 5		Clove	0 0	0 0	0 2	0 2	0 2
Sarsaparilla, Lima	0 11	1 1	0 11	1 2		Croton	1 6	1 8	0 9	0 9	0 9
Para	0 9	1 7	0 11	1 6		Juniper per lb.	2 0	2 6	1 10	1 10	1 10
Honduras	1 1	2 3	1 6	2 3		Lavender	1 9	2 10	2 6	2 6	2 6
Jamaica	14 6	15 0	14 0	15 0		Lemon	6 9	9 0	5 0	5 0	5 0
Sassafras per cwt.	30 0	35 0	32 0	38 0		Lemongrass per oz.	1 3	1 0	0 10	0 10	0 10
Scammony, virgin . . . per lb.	14 0	23 0	12 0	23 0		Mace, ex.	0 1	0 2	0 2	0 2	0 2
second	2 10	3 0	3 0	3 3		Neroli	5 0	6 9	5 0	5 0	5 0
Seneca Root	0 0	0 0	0 0	0 0		Nutmeg	0 1	0 3	0 1	0 1	0 1
Senna, Calcutta	0 4	0 0	0 3	0 5		Orange per lb.	5 0	6 0	5 6	5 6	5 6
Bombay	0 4	1 3	0 4	1 0		Otto of Roses per oz.	18 0	22 0	16 0	16 0	16 0
Tinnevely	0 3	0 9	0 3	0 8		Peppermint, per lb.					
Alexandria	3 0	0 0	4 6	4 9		American	14 0	14 6	9 0	9 0	9 0
Snake Root	0 11	0 0	1 0	1 1		English	0 0	0 0	34 0	34 0	34 0
Spermaceti, refined . . .	0 1	0 8	0 0	0 2		Rhodium per oz.	0 0	0 0	0 0	0 0	0 0
Squills	15 0	10 0	20 0	22 0		Rosemary per lb.	2 0	2 3	9 0	9 0	9 0
Tamarinds, E. India, per cwt.	10 0	20 0	17 0	30 0		Sassafras	3 3	2 6	3 9	3 9	3 9
West India	20 0	20 0	26 0	30 0		Spearmint	5 0	8 0	5 0	5 0	5 0
Terra Japonica—						Spike	0 0	0 0	0 0	0 0	0 0
Gumbar per cwt.	20 0	20 6	24 0	25 0		Thyme	1 9	2 0	0 0	0 0	0 0
Cutch	20 0	22 0	26 0	30 0		PITCH, British per cwt.	12 0	0 0	12 0	12 0	12 0
Valerian Root, English . .	20 0	35 0	26 0	28 0		Swedish	0 0	0 0	0 0	0 0	0 0
Vanilla, Mexican per b.	10 0	0 0	11 0	12 0		SALT PETRE, per cwt.					
Wormseed per cwt.	105 0	170 0	100 0	120 0		English, 6 per cent. or under	24 6	25 0	31 0	31 0	31 0
GUM—Ammoniac, drop, per cwt.	35 0	35 0	30 0	35 0		over 6 per cent. . . .	23 6	24 6	30 0	30 0	30 0
lump	200 0	230 0	200 0	210 0		Madras	21 0	22 0	29 6	29 6	29 6
Animi, fine pale	190 0	220 0	190 0	210 0		Bombay	20 0	22 0	29 0	29 0	29 0
bold amber	160 0	160 0	160 0	180 0		British-refined	28 6	29 6	35 0	35 0	35 0
medium	100 0	150 0	100 0	155 0		Nitrate of soda	13 6	14 0	15 6	15 6	15 6
small and dark	40 0	95 0	40 0	95 0		SEED, Canary per qr.	30 0	46 0	52 0	52 0	52 0
ordinary dark	72 0	80 0	80 0	94 0		Caraway, English . . . per cwt.	0 0	0 0	0 0	0 0	0 0
Arabic, E. I., fine pale picked	62 0	70 0	64 0	76 0		German, &c.	0 0	0 0	0 0	0 0	0 0
unsorted, good to fine . .	46 0	00 0	50 0	60 0		Coriander	0 0	0 0	0 0	0 0	0 0
red and mixed	25 0	40 0	25 0	40 0		East India	0 0	0 0	0 0	0 0	0 0
siftings	130 0	180 0	120 0	160 0		Hemp	44 0	46 0	0 0	0 0	0 0
Turkey, picked, good to fine	65 0	120 0	65 0	110 0		Linseed, Black Sea	56 0	62 0	60 0	60 0	60 0
second and inferior . . .	32 0	50 0	32 0	50 0		Calcutta	56 0	58 0	59 0	59 0	59 0
in sorts	39 0	40 0	33 0	37 0		Bombay	57 6	59 0	64 0	64 0	64 0
Gedda	60 0	70 0	57 0	64 0		Egyptian	52 0	0 0	62 0	62 0	62 0
Barbary, white	42 0	48 0	45 0	47 0		Mustard, brown . . . per bshl.	6 0	19 0	0 0	0 0	0 0
brown	32 0	36 0	30 0	35 0		white	11 0	13 0	0 0	0 0	0 0
Australian	25 0	55 0	33 0	75 0		Poppy, East India . . . per qr.	52 0	52 6	54 0	54 0	54 0
Assafetida, fair to good . .	340 0	900 0	350 0	630 0		Rape, English	0 0	0 0	0 0	0 0	0 0
Benjamin, 1st quality . . .	240 0	300 0	280 0	300 0		Danube	61 0	63 0	0 0	0 0	0 0
2nd	50 0	240 0	50 0	240 0		Calcutta fine	58 0	60 0	60 0	60 0	60 0
3rd	70 0	80 0	65 0	95 0		Bombay	70 0	73 0	66 0	66 0	66 0
Copal, Angola, red	70 0	80 0	65 0	90 0		Teel, Sesmy or Gngy . . .	60 0	62 0	60 0	60 0	60 0
pale	55 0	60 0	70 0	90 0		Cotton per ton	150 0	0 0	150 0	150 0	150 0
Benguela	23 0	37 0	25 0	55 0		Ground Nut Kernels . . per ton	270 0	0 0	300 0	300 0	300 0
Sierra Leone . . . per lb.	40 0	50 0	35 0	45 0		SOAP, London yel. . . per cwt.	28 0	32 0	20 0	20 0	20 0
Manilla per cwt.	160 0	170 0	100 0	120 0		mottled	32 0	36 0	24 0	24 0	24 0
Dammar, pale per cwt.	250 0	300 0	150 0	190 0		curl	46 0	50 0	46 0	46 0	46 0
Galbanum	140 0	240 0	80 0	140 0		Castile	40 0	42 0	40 0	40 0	40 0
Gamboge, picked, pipe . . .	0 9	1 5	0 6	1 6		Marcellis	40 0	42 0	40 0	40 0	40 0
in sorts	340 0	500 0	320 0	500 0		Soy, China per gal.	3 3	3 6	2 2	2 2	2 2
Guaiacum per lb.	25 0	56 0	29 0	45 0		Japan	1 6	0 0	0 0	0 0	0 0
Kino per cwt.	8 6	9 6	4 6	5 0		Sponge, Turkey, fine picked	19 0	23 0	19 0	19 0	19 0
Kowrie	180 0	180 0	140 0	180 0		fair to good	7 0	17 0	7 0	7 0	7 0
Mastic, picked per lb.	70 0	120 0	70 0	130 0		ordinary	2 6	6 0	2 6	2 6	2 6
Myrrh, gd. and fine, per cwt.	68 6	78 0	73 0	80 0		Bahama	0 4	1 3	0 4	0 4	0 4
sorts	58 0	67 0	58 0	70 0		TURPENTINE, Rough, per ct.					
Olibanum, pale drop	20 0	48 0	18 0	45 0		Spirits, French . . .	46 0	0 0	68 0	68 0	68 0
amber and yellow . .	65 0	60 0	75 0	80 0		American, in casks . .	0 0	0 0	0 0	0 0	0 0
mixed and dark . . .	77 0	95 0	80 0	100 0		WAX, Bees, English	180 0	185 0	170 0	175 0	175 0
Senegal	180 0	260 0	180 0	260 0		German					

